AMATEUR RADIO

AUGUST 1950

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

FOR THE EXPERIMENTER & RADIO ENTHUSIAST

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EDITORIAL

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"JAMMING THE HAMS"

This involves no invasion of the culinary art, but is intended by a recent press article to describe what is happening on the 40 metre band and elsewhere.

Foreign s.w. broadcast stations are said to have "dropped an iron curtain" between Amateurs of different nationalities, thereby "drowning out" one from the other. And so the jargon goes on; all very entertaining to the lay mind, and possibly amusing to the initiated.

There is, however, quite a different approach to this subject, and the thinking Amateur will doubtless realise that his hobby has lately received an injection of political significance at the hands of the Press which may endanger the privileges of close on 3,000 operators in this country. The careless comment; the burning personal opinion on international affairs; or the profound political conviction, find no place within the permissable limits of our experimental licence, and rightly so. Any such phrases eminating from Amateur Stations, and so quickly caught up, may easily and promptly echo to our disadvantage in the high halls of Canberra.

It would require very little official ink thereafter to dispose of all our hard won privileges "for the period," and all would be left lamenting. We strongly advise all members of the W.I.A. to use the pledge of secrecy as a bar to Press curiosity as touching upon our International contacts. We urge also that discouragement should be given to any local or foreign contacts who may show a tendency to go "political." Rather should we seek to guide such QSOs into safer channels where the elements of study and good fellowship can continue to brace and strengthen the hobby of our choice.

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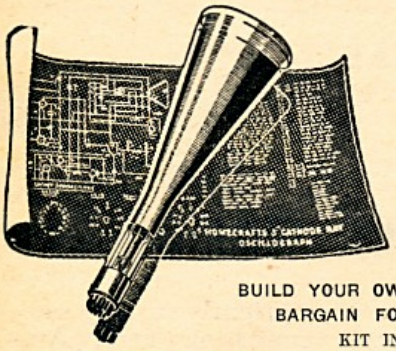

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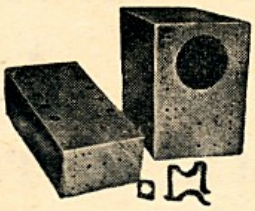

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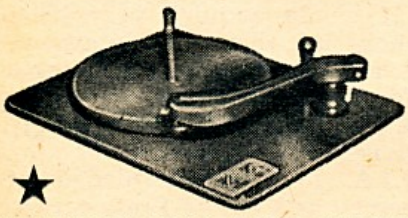

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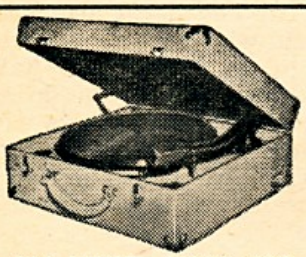

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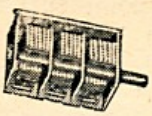

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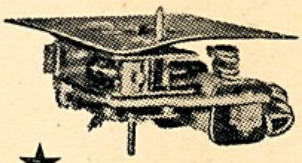

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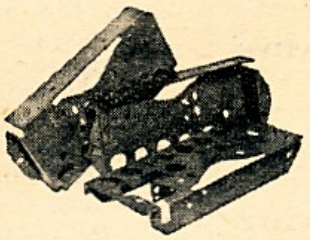

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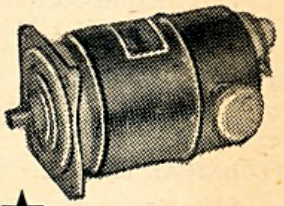

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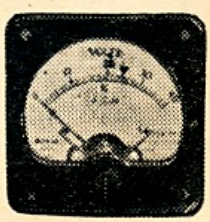

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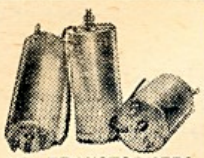

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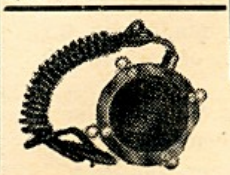

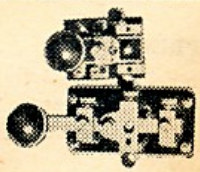

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Balanced Impedance Matching for Aerial Coupling

BY J. G. REED,* VK2JR, M.I.E. AUST.

This article is based on the paper read by VK2JR to the Easter Convention of the North Coast Members of the W.I.A., also to the June Meeting of the Sydney Division.

Impedance matching and electrostatic balancing of the input circuit to the receiver plays an important part in obtaining interference free reception and full advantage of the directional properties of aerials.

Almost without exception, considerable care is taken to employ efficient coupling to the radiator during transmission. However, with the receiver, it is surprising to note how many experimenters pay little or no attention to the important factor of balanced coupling and impedance matching of the input circuit to the transmission lines.

The centre fed dipole is an excellent type of aerial for reception because of its inherent balance to ground, and, when employed as two half waves in phase (such as a 66 ft. centre fed unit) for 14 Mc. reception, the directional property assists in keeping QRM down to a very low order in the quadrants not broadside to the line of the radiator.

If the receiver seriously unbalances the feeder lines to the horizontal dipole, a strong vertical component will be introduced, and depending on the magnitude and phase of the various currents, the field pattern may be distorted badly, in addition to admitting noise interference from local vertically polarised ignition and domestic appliance generators.

Drawing No. 1 illustrates what happens during a special case of combined reception of vertical and horizontally polarised signals. The vertical component has a uniform phase characteristic which may be represented by a circle. The horizontal component of the dipole —which is bi-directional—has one component which is in phase with the vertical, and another which is 180° out of phase. This characteristic is represented by the figure eight diagram.

When the components of the vertical and horizontal currents are combined vectorially, the in-phase signals add, and the out-of-phase signals subtract. Assuming that both are of equal magnitude, the result will be a "heart-shaped" diagram which will readily be recognised by experimenters who have had service experience with direction finders. Instead of the resultant of circle and figure eight as indicated, it is possible to produce many forms of reception pattern when magnitudes vary. This may be proved by drawing the circle and figure eight to different scales and plotting the resultant. Rapid variation of magnitude or phase of either component will produce a synthetic form of fading. This will be noticable with a signal being received from a relatively local station where portion of the signal comes horizontally and some of it vertically by reflection from the ionosphere.

An interesting sidelight to this random reception of multiple polarised signals is the exaggerated directional property attributed to some forms of "beam" aerials by their proud owners. When tested with receivers which are unbalanced with respect to ground, the interaction of vertical and horizontal components may be such as to give apparent high back-to-front ratio (refer to drawing 1). With a properly coupled transmitter the directional pattern may be rather mediocre. A well known Sydney experimenter employing a "G8PO" beam of "rotary bird perch dimensions" claimed a marvellous back-to-front ratio according to a reception test on a distant station, but when tested for transmission, this expensively erected radiator proved itself little better than a simple dipole with negligible back-to-front ratio.

As a subject for experimentation it may be possible to combine the signals from a horizontal dipole with those from a vertical aerial, through an appropriate semi-aperiodic valve mixer to produce controllable "heart-shaped" reception pattern for reduction of QRM from local stations during DX working. The writer is experimenting with this and may have more to say through "Amateur Radio" at a future date.

Elaborate coupling units with electrostatic screens have been used for coupling unbalanced receivers to balanced transmission lines. These have disadvantages in that continuous tuning is required and, in addition, due to the loose coupling between the primary and secondary windings, the reflected impedance of the receiver input to the line winding varies over such a wide range that matching with the transmission line becomes a difficult matter.

The writer has experimented to overcome this difficulty and has produced a wide-band iron dust core Balancing Transformer and Impedance Matching Circuit which provides a high coupling coefficient and retention of transmission line balance when coupled to the normal receiver with one input terminal at earth potential.

Drawing No. 3-4 illustrates the Standard Dummy Aerial characteristics and schematic connections from which it will be seen that the assumption of 300 ohms input impedance would be an all-round figure for the average receiver operating on short waves.

The original transformer developed employed a toroid core in the shape of a closed ring to limit pick-up from external fields. It is quite satisfactory to employ a cylindrical core if care is taken to shield the transformer. In one model the writer placed the wound tubular former in a paper lined screening can and rammed all round it a mixture of iron dust and binder with excellent results.

Precipitated iron powder may be purchased from any large chemical supply house as it is a standard item in school and college chemical laboratories for demonstrating the almost explosive rapidity of oxidation when thrown in its finely divided form into a flask of oxygen gas. Magnetite or its equivalent

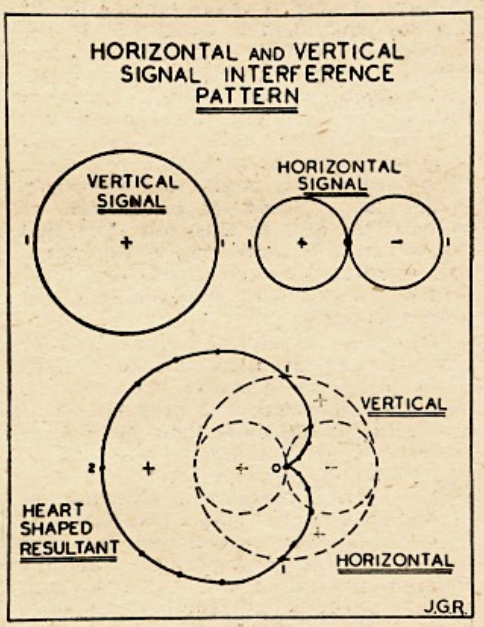


Fig. 1.

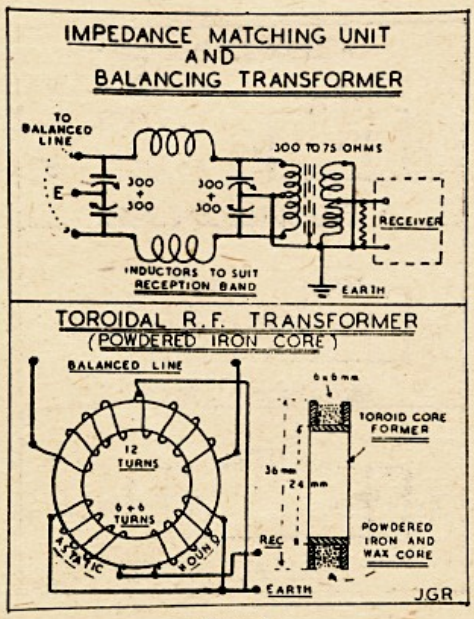


Fig. 2.

* Chartered Engineer; 57 Kameruka Rd., Northbridge, N.S.W.

may be obtained by crushing several cores from "permeability tuned" receiver inductors.

Suitable formers for moulding a mixture of iron dust or magnetite and wax are easily constructed, and these may be for toroidal or cylindrical cores as desired.

Mix sufficient iron dust and paraffin wax to form the required core and melt into an easily worked paste over a stove hot-plate, using only enough wax to form a stiff paste. With a small spatula or end of a tea spoon form the mixture

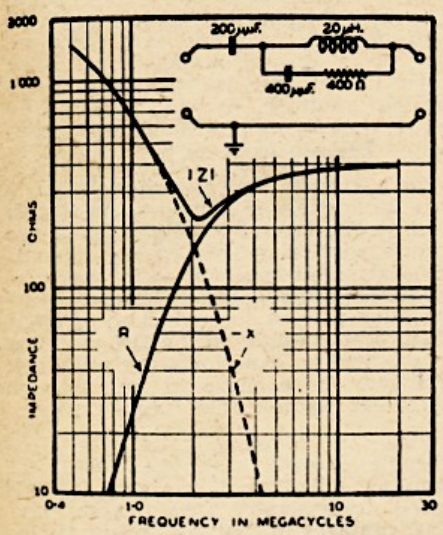


Figure 3 (Inset): Dummy antenna for all frequencies. Figure 4: Impedance characteristic of dummy antenna shown in Fig. 3.

Figs. 3-4.

into cylinder or toroid groove and when cool and hard cover with a layer of light waxed tape for mechanical protection.

VK2JC produced an excellent toroid core by making a casting with a piece of cab-type flex as a pattern. Being a dentist **during his spare time from radio,** 2JC used dental plate moulding powder to mix with the iron dust and produced a hard ring of such high magnetic property that the writer was able to lift one from the table with a small magnet used for setting the "high-low" index markers of a thermometer.

The secret of the high degree of electrostatic balance coupled with high magnetic coupling is in the polarity of the various windings. For clarity in drawing the toroid winding in Fig. 2 the windings are shown diammetrically opposed. In practice the windings are **immediately** over one another. The turns indicated in Fig. 2 are for a special transformer coupling from a 300 ohm line to a 75 ohm receiver input.

To cover the normal 20 to 80 metre bands, the windings are not critical, the only requirement of consequence being that the impedance of the windings equal the load resistance at the lowest operating frequency. For calculation purposes—to assist those of mathematical inclination—it may be assumed that the powdered iron core increases the permeability for a factor of about THREE.

For the average 300 ohm input receiver the transformer should have an effective 1 : 1 ratio employing 12 turns for the centre tapped primary or line winding and two sections of 12 turns each for the secondary or receiver winding. It is important to wind the latter in reversed sections.

Commence with the secondary winding by measuring out a little more than sufficient wire to complete the winding, and doubling it back on itself, put on the two identical reversed windings and bind down with a single layer of thin waxed tape. **(Do not use cellulose or "Scotch" tape as this reacts unfavorably during humid weather and may produce fungus growths.)**

Each secondary section should have twelve turns of approximately 26 s.w.g. enamel. The primary or line winding should be placed immediately over the first winding making sure that it is symmetrical. This consists of a total of 12 turns of wire of gauge such as No. 22 d.c.c. or equivalent to exactly cover the secondary. Before placing the line winding wrap on an electrostatic screen made from a non-shorting layer of tinfoil. An excellent material for this purpose is the foil coated waxed paper used for protection of Kodak roll films. With care, a little fluxite and a hot iron —such as a Scope—it is possible to solder light flex to this foil. See that the screen and centre tap of the primary winding are clear of the "hot" centre connection of the secondary (or inner) winding.

With the transformer alone a considerable improvement will be noticed in reception conditions. The insertion loss when operated on a properly terminated line is not more than one decibel which is more than compensated for by the reduction of noise level coming in on the vertical component, allowing use of higher receiver gain. VK2XO, who operates literally surrounded by high tension power transformers at the Raleigh sub-station on the North Coast reports phenomenal reduction of local noise. Ask Crieff to give a demonstration during your next QSO with him.

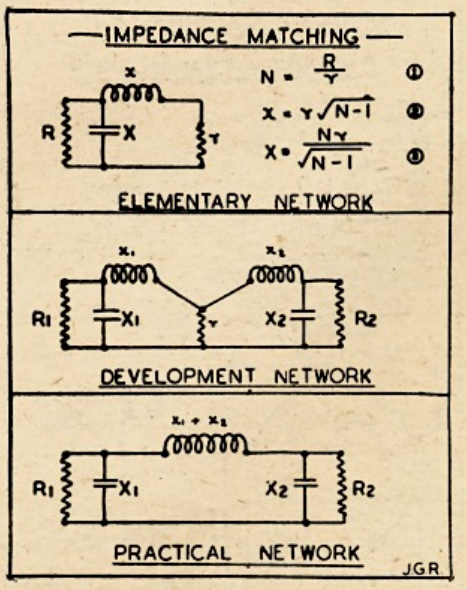


Fig. 5.

For most efficient use of the received signal energy the transmission line terminal impedance should be matched with the receiver input. Measurements show that the centre impedance of a 66 ft. dipole coupled to a receiver through 33 ft. feeders varies from approximately 30 ohms on 80 metres to 3,000 ohms at 40 and 20 metres. Assuming an average input impedance at the receiver of 300 ohms the mismatch will be seen to be 10 to 1; a state of affairs which, if detected in a transmitter, would be given immediate corrective attention.

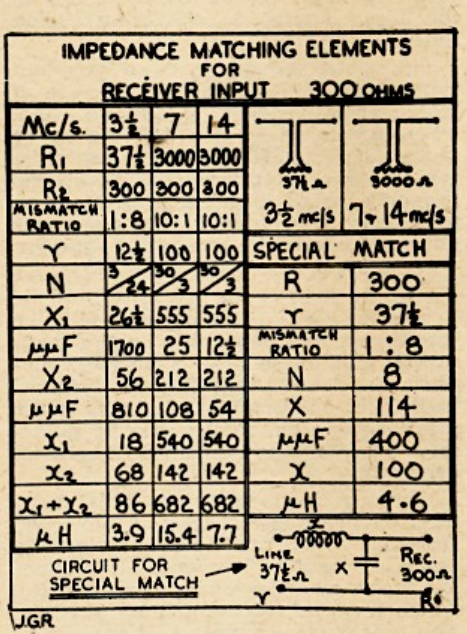


Fig. 6.

It is possible to adjust the length of the feeders for a spot frequency to give a workable match to the input circuit of the receiver. However this will be found an unworkable procedure for multi-band working. A "pi" network of reasonably high Q may be operated as a resonant circuit by making the reactance of the terminal capacitances proportional to the circuit impedances.

Another method based on the Reactance Transformer, evolved by Mr. E. Green, of the Marconi Company, and described in "Marconi Review" No. 67, provides an excellent means of solving the problem. Those who are interested in the mathematical solution of the Reactance Transformer are advised to consult this excellent article and its for-runner in the No. 54 Review. The "bread-and-butter" solution boils down to a few simple equations capable of easy solution.

The Reactance Transformer in its simplest form consists of a simple "L" network in which the capacitive arm always faces the circuit of high impedance. As the transmission line impedance may vary above and below that of the receiver input, the Reactance Transformer would require reversal or operation back to back with another section to form a "pi" network. Assuming the configuration in Drawing No. 5A where r = the low resistance, R = the high resistance, x = the series

(Continued on Page 8)

A Beam Rotator for 144 Mc.

BY JOHN IRELAND,* VK3AJI

The writer recently had need for some means of rotating a four-element beam for 144 Mc., and several methods of achieving this were explored.

Finally it was decided to try the genemotor out of the BC966A I.F.F. Receiver unit, which, with the associated gear train, proved most satisfactory for the job.

The genemotor was first removed from the chassis, stripped of fan, cams, contacts, etc., and then converted to operate on 230 volts a.c. To do this, the motor was dismantled by removing the gear train, mounting bracket, the castings containing the brushes and then the lugs on the ends of the field wires were snipped off. Extensions were soldered to the field wires, the joints insulated, and the extra leads brought out of the hole where the original wiring entered the motor. The low-voltage brushes were discarded, and two fresh leads connected to the high-voltage brush terminals (marked "H.V." on the casting) and also brought well clear of the motor, through the same hole as the field wires. The motor was then re-assembled, and the gear train replaced.

At this stage it was decided to test the motor as an a.c. unit, so one field lead was connected to one armature lead, the joint taped, and the remaining two leads (one field, one armature) connected to a.c. supply. The motor

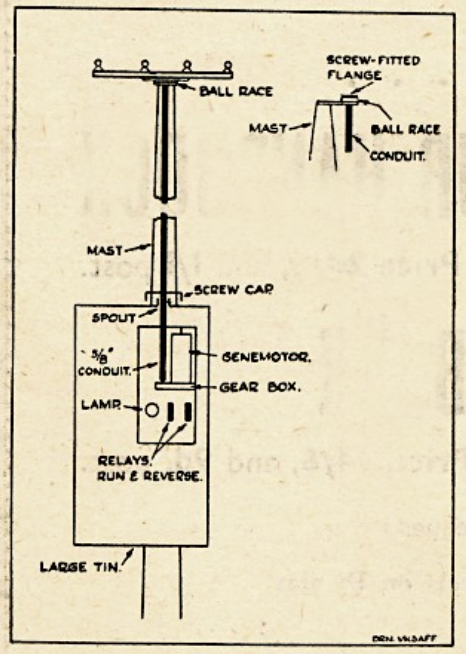


Fig. 1.

ran smoothly, but rather fast, and experiment with a 40-watt lamp connected across the brushes reduced the motor speed somewhat, but at the same time gave the final drive considerably more torque.

* 28 Russell Street, Ivanhoe, N.21, Vic.

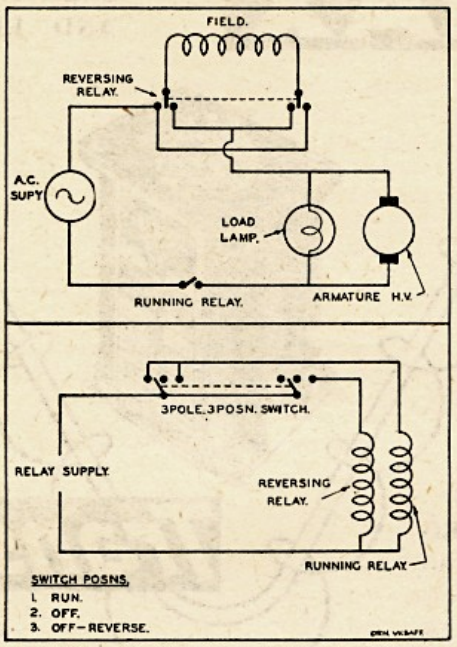


Fig. 2 (above), Fig. 3 (below)

As it was considered essential to have the unit reversible, methods of reversing the motor were investigated, and relay control seemed the best proposition, particularly in view of the fact that controls were to be a minimum in number. By utilising two relays taken from the BC966A it was found possible to have complete control over the unit with a 3-pole 3-position switch of the wafer type.

The temporary connections were then undone, and the motor mounted on a piece of 6" x ⅞" timber about a foot long, a batten-holder and the two control relays were fastened to the motor board, in positions as shown in Fig. 1.

To ensure weather-proofing, the whole was fitted in a kerosene tin from which one end had been removed, a 1" hole cut to allow the drive from the lowest gear to protrude, and the spout from a 1-quart oil tin soldered over the hole. A piece of ½" ebonite rod was line-bored with ¼" drill, tapped 5/32" and a grub-screw fitted, this being fitted on the ¼" shaft from the motor. A length of ⅝" drawn conduit was used to couple the motor to the beam, and this fitted closely over the ebonite bush. Next, a large screw-cap from a coffee jar was soldered to the conduit, just clear of the oil tin spout, making an excellent weather-proof seal, although no friction was incurred.

The whole assembly was mounted on the mast at a height of about 7 feet from the ground, the supply connected, and a couple of coats of paint finished the job.

So far no beam indicator has been installed, but a couple of Selsyns seem to be the logical answer. Another refinement would be some form of end-of-travel switch, and something will be done in this connection in the near future.

On test, the time of rotation was found to be 14.5 seconds in a clockwise direction, and 17 seconds when revolving in an anti-clockwise direction.

Details of control are shown in Figs. 2 and 3, and have proved most satisfactory at this QTH.

The main part of this job seems to be the mounting of the beam at the top of the mast or tower, and it is essential that the unit should be properly balanced, preferably on ball-race. Any suitably sized old ball-race from the junk box would do, and there seems to be no reason why the same motor could not be used for a beam for 6 metre operation.

Due to the slow speed of rotation, no great accuracy seems to be necessary in the drive shaft of conduit, and the whole should be easily made up by anyone, however roughly, with satisfactory results.

Audio Filter for CW

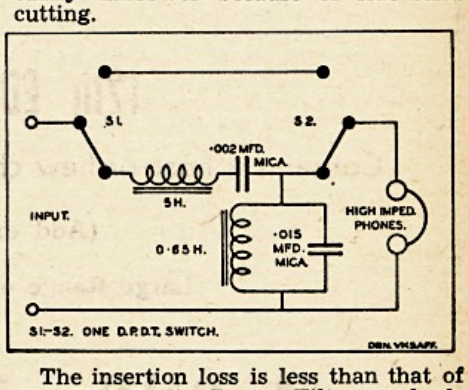
Filter chokes from 400 cycle power supplies can be used to make a simple yet effective audio filter for c.w.

Chokes from an ASB7 rectifier power unit (ex Disposals) were used. The switch shown in the sketch is used to cut out the filter when it is not required. (The writer does occasionally listen to phone signals!)

Resonant frequency was measured as 1400 cycles, with an insertion loss of 6 db (10,000 ohm load).
Bandwidth at:

—6 db is 400 cycles, 1200-1600.
—12 db is 1100 cycles, 900-2000.
—40 db is 5640 cycles, 360-6000.

Used with a selective receiver, the bandwidth in the —40 db region is actually narrower because of side-band cutting.



The insertion loss is less than that of the FL5 Radio Range Filter, and although not so sharp, yet it has proved useful in cutting down QRN and background noise, and is some help in reading through QRM.

For details on design of such filters, see "QST," July, 1949, page 51.

—VK3AWS, W. Stevenson.

REDUCING SPLATTER

BY R. Y. DAWLEY, W6DHG (Reprint from "Radio")

There are frequent cases where it has been found impossible to remove completely the splatter accompanying the modulation of a phone transmitter by any of the ordinary means. Another transmitter with the same tube line-up, but with a slightly different physical layout, will be capable of substantially complete modulation without any trace of splatter while the offending transmitter will begin to have spurious sidebands long before 100% modulation has been reached.

When the operator of such a transmitter was concientious he would probably attempt to isolate the trouble for a couple of sleepless nights, then finally give up and try re-building various stages of the transmitter until finally he found that the trouble had disappeared. Were he not quite so conscientious, he probably would just forget about it (as many have done) and let the other fellow on the band do the worrying.

It is hoped that this article, calling to the attention of the Amateurs a condition that could cause that difficult-to-locate source of sideband splatter, will be instrumental in reducing the sideband width of transmitters which are conscientiously "modulated less than 100 per cent." and yet are guilty of spurious sidebands.

AMPLITUDE AND PHASE MODULATION

In many cases of this kind, after every other avenue of attack has failed, it is quite possible that the difficulty may be found to lie in a seldom thought of type of modulation, phase modulation of the output of the transmitter. Phase modulation of limited amplitude in itself will cause no spurious sidebands; neither will conventional amplitude modulation. However, since the phase modulation that is taking place is the result of amplitude modulation, both modulation types are appearing at the same time with the result that new second and higher order sidebands are produced. It is these new higher order sidebands that cause adjacent channel splatter.

Phase modulation can be explained as a variation in the instantaneous phase of the carrier wave with respect to the phase that the carrier would have at this instant were it not modulated, this variation taking place at an audio rate. Audio modulation of one polarity will cause a slight acceleration in the angular velocity of a vector which can be thought of as representing the carrier frequency; modulation of the opposite polarity will cause a deacceleration in velocity of the vector and under carrier conditions the angular velocity of the carrier vector would be constant.

If the maximum phase shift or instantaneous vector displacement is one radian (57.3 degrees) or less, the sideband components produced in the output of a phase (only) modulated transmitter will be substantially the same as those produced in the output of a conventional amplitude modulated transmitter; the output wave will consist of first order sideband components in addition to the carrier. In other words, only the ordinary sum and difference frequencies will appear. However, if the maximum angle of displacement due to modulation is more than one radian, second and higher order components, similar to those produced by overmodulation of an amplitude modulated transmitter, will appear in the output.

So we see that if phase modulation in excess of one radian is taking place at any modulation percentage as far as amplitude modulation is concerned, the resulting effect will be the same as though the transmitter were being amplitude modulated in excess of 100%. Actually the transmitter is being modulated in excess of its modulation capability as soon as higher than first order effects, due either to amplitude or to phase modulation, appear as sidebands in the output. As a matter of fact, as long as **any** phase modulation is taking place along with the desired amplitude modulation, second order effects or double-modulation-frequency sidebands will appear in the output. Then if the transmitter is being phase modulated in excess of one radian the spurious-sideband condition can be really serious due to sidebands of three, four, or five times the modulation frequency.

By another analysis of phase modulation, it can be shown that the result is identical to frequency modulation, but with a very limited change in the frequency of the transmitter due to modulation. Since the carrier vector is being accelerated and deaccelerated with modulation, it can be seen that at any point on the modulation cycle the instantaneous output frequency of the transmitter is different from what it is under carrier conditions.

CAUSES OF UNDESIRED PHASE MODULATION

There are three conditions that may exist in a phone transmitter which can cause phase modulation. The first is regeneration in the final stage caused by its being operated out of neutralisation. The magnitude of phase modulation will be proportional to the amount the stage is out of neutralisation and to the transconductance of the tubes. If the final amplifier is exactly neutralised no phase modulation can arise from this source. However, the amplifier may appear to be neutralised when it is tuned up without plate voltage and yet when plate voltage is applied it may show signs of regeneration or degeneration. This condition is much more likely to appear in a single-ended stage when operating at a high carrier frequency than in a push-pull stage.

OPERATION INTO REACTIVE LOAD

Another condition which can easily cause phase modulation is the operation of the modulated stage into a reactive load. This can occur when the final tank circuit is simply detuned from resonance for one reason or another. In such a case the tubes would not be operating at minimum plate current and restoring the tank to resonance would correct the difficulty. Phase modulation arising from this condition is the result of variations in the plate resistance of the tubes with modulation acting in series with the reactance of the output circuit.

The final stage may also be operating into a reactive load when the final tank is tightly coupled to an antenna system which is not exactly at resonance. When coupling an antenna system to a transmitter makes it necessary to retune the plate tank for minimum plate current, it is more than likely that the tubes are operating into some reactance. If the tank is comparatively high Q, it is possible that the reactance will be small and will cause no ill effects. However, if the tank circuit is of the minimum Q permissible for the operation of the stage into a resistive load it is quite possible that when the tank is retuned to minimum plate current it is really being retuned to maximum tank impedance and not necessarily to tank resonance. Under these conditions the tubes would be operating into a reactance (more than likely an inductive reactance) when the tank has been retuned to minimum plate current. Such a condition will cause phase modulation along with the desired amplitude modulation.

An arrangement which can very easily cause phase modulation is the operation of a modulated amplifier into a pi network, especially one of the so-called simplified type where the tank circuit has been eliminated and the tube operates directly into the first condenser of the network. If the network has not been accurately designed, or if the stage is not being operated very closely in accordance with the design, it is quite easy to have a condition which will cause phase modulation.

TESTING FOR REACTIVE LOAD ON THE FINAL

Since the operation of the modulated stage into a reactive load can so easily cause phase modulation with its attendant undesirable effects, a test which would tell whether or not the stage was operating into such a load would be of assistance.

When an amplifier has been properly neutralised and has no regeneration or degeneration in the stage, the point of minimum plate current will exactly coincide with the setting of the final amplifier tank

condenser which gives maximum grid current. This should be true with the amplifier both loaded and unloaded.

It is of course true that the grid current to the stage will be less with plate voltage on the tubes than before the voltage was applied. It is also common knowledge that as the plate tank condenser is detuned either side of resonance the plate current will increase and the grid current will decrease still further. The important thing is that the grid current be highest exactly at the same point that the plate current is lowest. In any amplifier that is operating correctly this will be the case. But when an amplifier is being loaded too heavily for a low-Q plate tank or when a reactance is being coupled into its plate circuit from an external source, maximum grid current will not flow at the point of minimum plate current.

When a stage in which the two points do not coincide is modulated, phase modulation to a greater or lesser extent will take place, the amount of such modulation being dependent upon the magnitude of the reactance into which the tubes are operating.

If the minimum plate current and maximum grid current points come at the same setting of the plate tank condenser when the amplifier is unloaded, but do not when the stage is loaded, it means that the stage is being loaded too heavily for the Q of the tank circuit or that the antenna system is coupling a reactance into the tank. The remedy is either to use a higher Q plate tank or to retune the antenna and feeder system to resonance, or both.

BACK COUPLING AS A CAUSE OF PHASE MODULATION

Another condition which can cause phase modulation as the transmitter is amplitude modulated is coupling from the modulated output of the transmitter back to one of the exciter stages. This can occur when there is inductive coupling from the output tank circuit or the antenna feeders to the tank coil of one of the exciter stages which is operating on the output frequency. This back coupling can cause a phase shift in the grid excitation to the modulated stage. The phase shift would be proportional to the amount of energy which is being fed back, and since the amount of energy in the output circuit would be proportional to the modulation, the phase of the energy appearing at the grids of the modulated stage would vary with modulation. Phase modulation arising from this condition can cause the same undue sideband width or splatter as phase modulation arising from any of the other sources.

The cure for this condition would simply be to shield the exciter stages from the modulated output circuits of the transmitter. In this way the back coupling will be stopped and any phase modulation arising from it will be eliminated.

IMPEDANCE MATCHING FOR AERIAL COUPLING

(Continued from Page 4)

inductive reactance, and X = the parallel capacitive reactance, the relationship is as follows:—

$$x = r\sqrt[2]{n-1}$$

$$X = \frac{\sqrt[2]{n-1}}{n\ r}$$

where n = the ratio of R and r.

To generate a "pi" network it is necessary to assume that both ends of the circuit operate into a phantom common resistance shown by dotted lines in Drawing 5B.

If R1 and R2 are taken as the two end resistances and r the internal phantom resistance, the two values of x (inductive series reactance) should be added to form a single unit. The resultant network is illustrated in Drawing 5C.

Drawing No. 6 tabulates the circuit constants for matching a 300 ohm receiver input to a line varying between 37.5 and 3,000 ohms for 3.5, 7 and 14 Mc.

The capacitors on both sides of the coupling network should be twin ganged to give a centre earth connection, and should have individual section values to give the values shown.

The inductors should be arranged in two half value sections switched by a two gang three section Oak switch to preserve symmetry. If the transmission line is not an exact quarter wave multiple the residual reactances may cause trouble in compensating for their effect on the circuit. It is best therefore to have the transmission lines tailored to the closest multiple to avoid this complication.

Components of the Reactance Transformer and Matching Network should be housed in a screened compartment, otherwise spurious pick-up may nullify all the good work put into the construction of the unit.

This type of coupling transformer, used in conjunction with a rotating loop aerial permits accurate direction finding reception. The writer is at present experimenting with an astatic balanced pair of loops which provide a high degree of discrimination against vertical component signals. This is confidently expected to permit accurate plotting of "pirate" stations. Details are promised for a future issue of "Amateur Radio."

— . . . —

NEW NO. 123 VARNISH STAYS FLEXIBLE AFTER BAKING

Outstanding characteristic of the new Irvington No. 123 Insulating Varnish, developed by the Irvington Varnish and Insulator Company, Irvington 11, N.J., is that it stays flexible after baking. This makes it particularly valuable for impregnating transformer and other similar coils, as the leads can be bent and twisted after the varnish is cured without danger of the conductor breaking or the varnish cracking.

Irvington No. 123 is a clear insulating varnish with excellent bonding characteristics, high dielectric strength, and exceptional resistance to moisture, transformer oils, mineral oils and solvents. Although it retains enough flexibility to permit individual leads to be bent into position, it penetrates deep into coil windings and bakes throughout to form a unified, solidly bonded mass. It exhibits excellent stability characteristics in the impregnating tank as well as in storage.

Technical details and samples of Irvington's new No. 123 insulating varnish are available on request to the manufacturer.

Remembrance Day Contest 1950

The Remembrance Day Contest is an Australian Annual Contest to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August in each year, the date on which hostilities ceased in the S.W.P.A.

A handsome Perpetual Trophy is awarded annually for competition between States, and is inscribed with the names of those who gave their lives, so perpetuating their memory throughout Amateur Radio in Australia. The name of the winning State for each year is inscribed on the Trophy.

RULES

1. The contest will commence at 1800 hours E.A.S.T. on the 12th August and continue through until 1759 hours E.A.S.T. on the 13th August, 1950. The period of operation of any station is limited to any twelve consecutive hours within the 24 hours set down.

2. The contest is open to all Australian Amateurs, but only members of W.I.A. are eligible for the awards.

3. The contest is an open contest—c.w., phone or a combination of both may be used.

4. The contest is an Interstate Contest, and Amateurs in each State will endeavour to contact Amateurs in all other States.

5. A station may be operated by more than one operator provided that a separate log is entered for each operator under his own call sign.

6. All present Amateur Bands may be used, and all transmissions must conform with the Regulations as laid down in the P.M.G's. "Handbook for Operators of Amateur Wireless Stations," January, 1948. Any breaches of these regulations will lead to the disqualification of the station concerned.

7. The arranging of schedules for contacts on other bands will not be permitted.

8. All stations entering the contest will call "CQ RD" if using c.w., and "CQ Remembrance Day" if using phone.

9. A State competing for the trophy must submit a minimum of six (6) logs from members before becoming eligible for contesting the Trophy.

10. Only one contact per station per band is permitted.

11. Each participant shall assign himself a three figure number. When more than one operator operates the same station, each must assign himself a separate three figure number. To facilitate checking the logs, competitors are urged to use three figures which are not the same—serials such as 111, 222, etc., are to be avoided.

12. The exchange of serial numbers shall be as follows: The first three figures are those chosen in Rule 11 above, and will be retained throughout the contest; and the second three numbers will commence with 000 for the first contact and for subsequent contacts will be the FIRST three numbers of the station of the PREVIOUS contact. A complete exchange of signal reports must also take place before any points may be claimed for the contact.

SCORING

13. In order that an equitable distribution of points for States with a large number of contest stations to a State with fewer contact stations may be determined, a sliding scale of points has been allotted as shown in the scoring table appended.

14. In addition to the points in the scoring table that may be scored, a bonus of 25 points may be added to the total score for each State worked on 50 Mc. or above.

LOGS

15. The log submitted must show in the following order: date, time (E.A.S.T.), station worked, band, type of emission, signal report sent, signal report received, serial sent, serial received, and points claimed.

16. A statement signed by the operator must be attached at the conclusion of the log, stating that the Regulations (Rule 6) and these rules have been observed. Any logs departing from this form will be automatically disqualified.

17. All logs must be forwarded through the Contestant's Divisional Council (for membership checking) to reach Federal Executive, Box 2611W, G.P.O., Melbourne, on or before 5th September, 1950.

AWARDS

18. Attractive Certificates will be awarded to the first, second and third highest stations in each State. There shall be no outright winner for Australia. Where a large number of logs are received from any one State, further certificates may be issued at the discretion of the Contest Committee.

TROPHY

19. The State to which the Perpetual Trophy is to be awarded shall be determined as follows: The logs of the six (6) highest scorers in each State (see Rule Nine) shall be averaged. To this average shall be applied a multiplier which shall be formed by taking the total log entries from a State and dividing by the total number of licensed Amateurs in that State at the date of the Contest.

20. The logs which will be accepted for the multiplier as determined under Rule 19 shall show at least five (5) contacts in the contest.

21. The Trophy shall be forwarded to the winning State, in its container and will be held by that State for a period of 12 months, when the winner for the succeeding year is determined.

22. The Contest Committee shall be the sole adjudicators, and their ruling shall be binding in the case of any dispute.

SCORING TABLE

From \ To	VK2	VK3	VK4	VK5	VK6	VK7	VK9	Total
VK2	—	1	2	3	5	4	6	21
VK3	1	—	3	2	5	4	6	21
VK4	1	2	—	3	6	5	4	21
VK5	2	1	3	—	5	4	6	21
VK6	1	2	4	3	—	5	6	21
VK7	2	1	4	3	5	—	6	21
VK9	1	2	3	4	5	6	—	21

NOTE.—Read the Table from left to right for points for the various States.

Examples:

A VK2 scores	1	point	for	VK3	contact	
	2	,,	,,	VK4	,,	
	3	,,	,,	VK5	,,	etc.
A VK6 scores	1	point	for	VK2	contact	
	2	,,	,,	VK3	,,	
	4	,,	,,	VK4	,,	etc.

"Worked All America" Award

The "Worked All America" (W.A.A.) Award has been instituted by Liga de Amadores Brasileiros de Radio Emmisso "L.A.B.R.E." to encourage interest in the American area.

1. The W.A.A. Award for confirmed contacts with forty-five (45) or more countries in the American area is available to Amateurs everywhere in the world.

2. Conformations must be forwarded direct to L.A.B.R.E. Headquarters, P.O. Box 2353, Re de Janeiro, Brazil, South America.

3. Confirmations must be accompanied by a list of claimed countries to aid in checking.

4. All contacts must be made with Amateur Stations working in the authorised Amateur Bands or with other stations licenced to work Amateurs.

5. All stations contacted must be "land stations," contacts with ships, anchored or otherwise, and aircraft, cannot be allowed.

6. All stations must be contacted from the same call area, where such areas exist, or from the same country in cases where there are no call areas. One exception is allowed to this rule; where a station is moved from one call area to another, or from one country to another, all contacts must be made from within the radius of 150 miles from the initial location.

7. Contacts may be made over any period of years, dating post-war (i.e. since November, 1945) provided only that all contacts be made under the provisions of Rule 6 and the same station licence; contacts may have been under different call letters in the same area (or country) if the licensee for all was the same.

8. All confirmations must be submitted exactly as received from the stations worked. Any altered or forged confirmations submitted for W.A.A. will result in the disqualification of the applicant.

9. Operating Ethics: Fair play and good sportsmanship in operating are required of all Amateurs working for the W.A.A. Award. In operating ethics, an individual may be disqualified from the W.A.A. Award by action of the L.A.B.R.E. Award Committee.

10. A minimum readability report of 3 shall be recorded on each confirmation submitted.

11. A minimum signal tone report of T8 is required for all c.w. confirmation.

12. Decisions of the L.A.B.R.E. Awarding Committee regarding interpretation of the rules as here printed, or later amended, shall be final.

13. All applications must be forwarded to the L.A.B.R.E. by registered mail, sufficient postage for the return of the confirmations must be forwarded with the application.

14. All certificates will be consecutively numbered and an Honor Roll, showing all those issued, will be kept by the Secretary of the L.A.B.R.E.

15. The list of countries in the American area (North and South America) in connection with the above award is appended.

LIST OF COUNTRIES TO BE COVERED FOR THE W.A.A. AWARD

1. Alaska	KL7	N.A.	Zone	1
2. Antartica	VP8	S.A.	,,	13
3. Argentina	LU	S.A.	,,	13
4. Bahama Islands	VP7	N.A.	,,	8
5. Barbados	VP6	N.A.	,,	8
6. Bermuda Islands	VP9	N.A.	,,	5
7. Bolivia	OP	S.A.	,,	10
8. Brazil	PY	S.A.	,,	11
9. Canada	VE	N.A.	,,	1–5
10. Canal Zone	KZ5	N.A.	,,	7
11. Cayman Islands	VP5	N.A.	,,	8
12. Chile	CE	S.A.	,,	12
13. Clipperton Islands	TI	N.A.	,,	7
14. Locos Island	TI	N.A.	,,	7
15. Colombia	HK	S.A.	,,	9
16. Costa Rica	TI	N.A.	,,	7
17. Cuba	CM, CO	N.A.	,,	8
18. Dominican Republic	HI	N.A.	,,	8
19. Easter Island	CE	S.A.	,,	12
20. Ecuador	HC	S.A.	,,	10
21. Falkland Islands	VP8	S.A.	,,	13
22. Galapagos Island	HC	S.A.	,,	10
23. Greenland	OX	N.A.	,,	40
24. Guadeloupe	FG8	N.A.	,,	8
25. Guantamano Bay	KG4	N.A.	,,	8
26. Guatemala	TG	N.A.	,,	
27. Guiana, British	VP3	S.A.	,,	9
28. Guiana, French & Inini	FY8	S.A.	,,	9
29. Guiana, Netherland	PZ	S.A.	,,	9
30. Haiti	HH	N.A.	,,	8
31. Honduras	HR	N.A.	,,	7
32. Honduras, British	VP1	N.A.	,,	7
33. Jamaica	VP5	N.A.	,,	8
34. Leeward Islands	VP2	N.A.	,,	8
35. Martinique	FM8	N.A.	,,	8
36. Mexico	XE	N.A.	,,	6
37. Miquelon & St. Peirre Is.	P8	N.A.	,,	5
38. Western Netherlands, India	PJ	S.A.	,,	9
39. Newfoundland & Labrador	VO	N.A.	,,	2–5
40. Nicaragua	YN	N.A.	,,	7
41. Panama	HP	N.A.	,,	7
42. Paraguay	ZP	S.A.	,,	11
43. Peru	OA	S.A.	,,	10
44. Porto Rico	KP4	N.A.	,,	8
45. Salavador	YS	N.A.	,,	7
46. South Georgia	VP8	S.A.	,,	13
47. South Orkney	VP8	S.A.	,,	13
48. South Sandwich Islands	VP8	S.A.	,,	13
49. South Shetland Islands	VP8	S.A.	,,	13
50. Swan Island	KS4	N.A.	,,	7
51. Trinidade & Tobago	VP4	S.A.	,,	9
52. Turke & Caicos Islands	VP5	N.A.	,,	8
53. U.S.A.	K & W	N.A.	,,	3–5
54. Uruguay	CX	S.A.	,,	13
55. Venezuela	YV	S.A.	,,	9
56. Virgin Islands	KV4	N.A.	,,	8
57. Windward Islands	VP2	N.A.	,,	8

TUNING IN S.S.S.C.

A few of us have been using s.s.s.c. and have been very disappointed at the lack of response and help from others on the band. You can call for hours and get no reply, except from the few stalwarts who come to your aid every time.

It is only to be thought that the chaps do not know how to tune it in properly. No other explanation could be counteranced.

When receiving s.s.s.c. the receiver must supply the carrier. This can be done by two methods.

(1) The receiver b.f.o.
(2) An outside oscillator.

The outside oscillator is the better method. With an outside oscillator, which can be your frequency meter, your v.f.o. or another r.f. oscillator, you supply the carrier at the exact frequency of the untransmitted carrier. The nearer you get to this frequency, the better the quality of the received signal. Any variations in frequency have to be compensated for at the receiving end. After you have supplied the carrier at the right frequency you can tune the receiver to give you the best results. After you have used the receiver b.f.o. method, it is a strange feeling to be able to tune the receiver quite freely.

In using the b.f.o. you have to set the frequency in the band pass of your receiver's i.f. channel. Then turn on your b.f.o. and supply the carrier at the right frequency.

In both methods of reception, you must adjust the strength of your supplied carrier to correspond to the strength of the received side band. If you supply too much carrier, you get the effect of undermodulation and if your carrier is too weak, you get the effect of overmodulation with bad distortion. The latter trouble is very common in cases using the b.f.o. The strength of the carrier from most b.f.o's. is quite small.

The solution is to decrease the strength of the received side band. You do this by turning down the r.f. gain control or taking off your aerial. That is the hardest thing to get the chaps to do. You must take your foot off the accelerator. I'll admit it is a terrific wrench to have to turn the r.f. gain back, but it is the only solution.

There is no means of reporting s.s.s.c. strength on the present RST system. All we are interested in is readability. If that is 100 per cent. that is all we really want.

When using an outside oscillator you have to vary the coupling to get, again, the proper ratio of injected carrier to received side band. We thought that if you injected an R9 plus signal at all times and thereby flattened all QRM and noise and put up with the effect of undermodulation, it would be the best thing, but things did not work out at all well that way.

It is all quite easy when you get the hang of it so go to it, give us a hand and the best of luck—but remember that accelerator.

—Dr. Leo H. McMahon, VK2AC.

APPARENT DUPLICATION OF VALVE TYPE NUMBERS

TYPE 6AR7GT

Questions have been asked by those who have noticed type 6AR7GT listed as a double diode in the A.R.R.L. Handbook and in other overseas publications. The answer is that this type number was reserved by R.M.A. for the General Electric Company (U.S.A.) in 1945, but registration was not carried out and the request for reservation was subsequently cancelled. This type number, 6AR7GT, was subsequently registered by the Radio Manufacturers Association (U.S.A.) on application by Amalgamated Wireless Valve Company, for a duo-diode-pentode manufactured in Australia. The use of this type number for any other valve is erroneous. —A.W.V. "Radiotronics" No. 143.

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NEW INVENTION IN RADIO

Mr. P. M. S. Damen, of The Hague, has applied for a patent on a special device to be used in conjunction with radio sets. It is claimed that this device will make it possible to tune in to any broadcast listed in a radio programme, at any given day, time or wave length.

By means of this gadget, which is operated by a clock containing a paper strip listing the different times of eight stations, listeners are enabled to arrange their radio programmes a day—or even a week—in advance by the use of one or two simple manipulations.

The tuning in or the switching off of one station—or the change-over from one station to another—is effected by the use of a number of contact points which are either dropped through the perforations or allowed to by-pass them as required.

The advantage of this new invention is that one need not miss any news, concert, radio play or some other important broadcast which now one often remembers too late. Mr. Damen claims that the purchase price of his gadget, according to experts, will constitute only a small percentage of the cost of a radio.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

AUGUST, 1950

Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

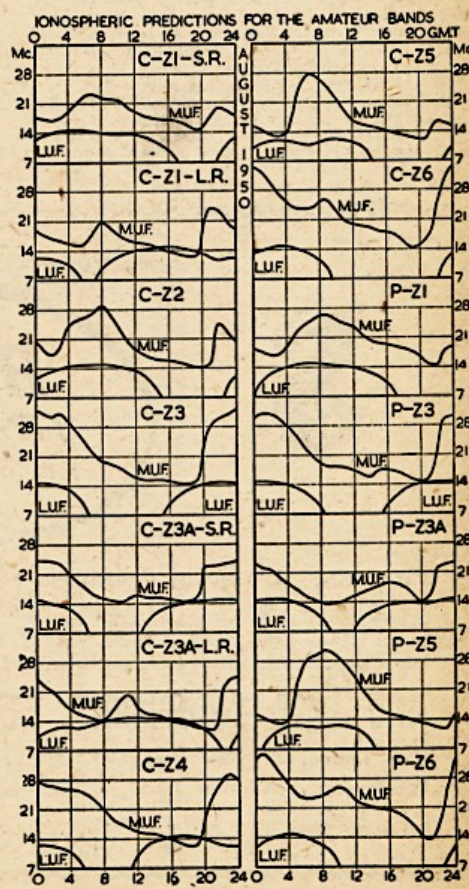
The Perth charts are similar to those based on Canberra.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-San Francisco circuit would be useful:—

1. Were good conditions experienced on 7 Mc. for the period 0600 to 1500 hours G.M.T.
2. Was the 14 Mc. band workable between 0300 and 1800 hours G.M.T.?
3. Was the 28 Mc. band workable for several hours around midnight G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the months.



FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

Activity during the past month seems to have been concentrated on 144 Mc. VK3TO at Yallourn is running a continuous automatic c.w. transmission on this band and has been heard at good strength by Melbourne stations.

An epidemic of Frequency Modulation is raging amongst the 50 Mc. gang in Melbourne, and many are the arguments regarding the relative merits and demerits of Phase Modulation and Frequency Modulation. At the time of writing, the odds are definitely in favour of Phase Modulation. A good sign is the adoption of n.b.f.m. adaptors for the receivers, and most of the aforementioned devotees of f.m. have fitted them with good results

50 Mc. ACTIVITY

VICTORIA

One of the best DX openings for this time of the year so far experienced occurred on the 30th June when from 1500 to 1620 3BQ and 3IM worked 4XN and 4BT with signals peaking over S9. Between 1800 and 1820 2VW and 2RU were heard, but not contacted, and then from 1950 to 2200 hours 4BT, 4CU, 2LH, and 2SL were worked by 3OD and 3IM. VK4s were heard working VK5s and VK2s, so it is evident that the opening was very widespread.

The Victorian country stations are still on the job and 3UI, 3APF, and 3ZL continue to provide contacts with Melbourne stations. Signal strengths are down compared with summer levels, but the contacts are still being made, which is the main thing. 3VL, formerly of Red Hill, is now at Omeo and hopes to be on 50 Mc. before long. Rex is in a rather shielded location, but will be doing his best to contact Melbourne stations.

SOUTH AUSTRALIA (UPPER MURRAY AREA)

This past month or so has seen a great increase in 50 Mc. activity from the Upper Murray area. Being in the vicinity of 150 miles or so from Adelaide and from most other centres of hamdom, we have good prospects of DX. 5BC has added a p.a. stage, consisting of 833s in push pull, to his 807 output 50 Mc. transmitter and is now running 100 watts c.w. Extensive tests were carried out from 11th to 25th June with 5HD, 5QR, 5RT and 5MK—all in Adelaide. Tests at night were carried out during the week, and day tests on Sundays, and it was found that very little difference occurred between day and night. Although QSB was very prevalent, it seemed worse at night. When heavy cloud existed between 5BC and Adelaide, QSB was less, however best average report both ways was R5 S5 with occasional peaks to S7.

At present 5BC's antenna is a four element wide spaced beam. 5HD is the same, and shortly both are adding an additional four elements on top of each in an effort to improve things. C.w. has been used mostly, but phone has been heard from Adelaide. 5MA in Berri here also is starting on six. His receiver is a converted 1133 receiver and transmitter is a revamped 1133H transmitter section with the RK34 section removed. His antenna is a dipole for the time, but beams will follow.

5XL at Clare, S.A., some approximate 100 miles direct, is also interested in these tests and has a crystal controlled converter feeding into an AR8 receiver. He has had several good crossband tests with the Adelaide boys. 5XL has a transmitter under construction.

144 Mc. DOINGS OF THE MONTH

VICTORIA

With the coming of cold nights and cessation of field day activity for the winter, activity is still at a somewhat low level, but there are still a few stations on the band every night. New calls heard during the month are 3AIQ and 3WR.

As mentioned last month, 3ZD, of Warragul, is now active on this band and has worked a number of Melbourne stations including 3ABA, 3ED, 3IM and possibly others. He has also worked 3TO at Yallourn and 3AKE at Geelong. This latter contact is over a distance of 85 miles and has been made with good signals both ways.

3TO continues to work from his portable location on Sunday afternoons and still works a number of Melbourne stations. 3ZL, of Ballarat, has a new beam up, exact type not known at time of writing, however it is giving a considerable improvement in signals over the old one and Eric has been able to hear 3TO for the first time, under fairly adverse conditions, so a contact over this path should be possible before long.

3WI will soon be transmitting on both 50 and 144 Mc., two TR1143s having been modified for this purpose. A special omni-directional aerial has been designed for the two metre transmitter by Len Jackson, and as the transmitters will be operating from a high location, it is hoped that a good coverage will be obtained on both bands.

TASMANIA

7BQ has just completed a cascode converter for 144 Mc. and is giving it a good test, preparing for the next DX season. 7BQ also has gear for 288 and 576 Mc., but no QSOs have taken place due to the inactivity of the local v.h.f. members. 7AM has built a crystal rig for 144 Mc., but as yet the crystal oscillator seems to be the only thing working.

From Hobart 7MY reports that he is using a m.o.p.a. RK34 osc. driving a pair of CV6s in push pull, all tuned circuits being parallel lines. This rig is modulated by a single 807 and fed into an open wire feeder to a vertical J 50 ft. high. A standing wave indicator shows no standing waves. A four element "Lenfo" is to go up soon on a piece of water pipe with suitable rotating gear. 7MY is to add a pair of VT90s to the final and by the time this is in print, an automatic sender will be in operation and at regular times a m.c.w. signal will be put out with hopes of pushing a signal further afield than the front fence.

ABSTRACTS, OVERSEAS MAGAZINES

Since these abstracts have been running, we have had many enquiries as to where these magazines can be seen or borrowed. For subscriptions McGill's Newsagency can oblige. In Victoria the two other main sources are the W.I.A. (Victorian Division) and the Melbourne Public Library. The W.I.A. (Vic. Division) gets the following: "QST," "CQ," "Short Wave Magazine," "Short Wave News," "Wireless World," "R.S.G.B. Bulletin," and these are available on loan to Victorian Division members from the Librarian.

The Melbourne Public Library gets: "Amateur Radio," "Australasian Radio World," "Radio and Hobbies," "Radio and Television News," "Wireless World," "Electronic Engineering," Electronics," "Radiotronics," "Television" and in the near future will be getting "CQ" and "QST." In general, private individuals cannot borrow these, but they may be read at the Library any day or evening. Similar information from other States will be published when available.—A.K.H.

BOOK REVIEW

OP.-AID.—Published by Amalgamated Short Wave Press, London, 1/6 sterling. This booklet is a concise operating aid. It contains tables of prefixes, alphabetical and by countries; call areas; zone boundaries; local times; QSL bureaux; Q and Z codes; maps of U.S.A. and U.S.S.R. call areas, and more of similar types of facts which are very handy when combined in a small booklet like this.

"RADIO AND TELEVISION NEWS," JAN., 1950

P. 35: **"Frequency Measurements for Citizens Radio;"** H. McKay.—Simple frequency measurement for 460-470 Mc. band.

P. 43: **"A Two Meter Quad;"** G. B. Oberto.—Claims to have low angle of radiation and higher gain than two five-element beams stacked.

P. 48: **"Converting the Abbott TR4 for 420 Mc.;"** D. H. Rogers, W2MLF.

P. 62: **"A Versatile Low Power Transmitter;"** G. L. Countryman, W3HH.—6AG7 c.o., 807 p.a.

"RADIO AND TELEVISION NEWS," MARCH, 1950

P. 38: **"Broadband Converters;"** A. B. Kaufman, W6YOV.—Single and two tube crystal controlled converters for 80, 40, 20 and 10 metres.

P. 45: **"The Mini Rack Transmitter;"** J. F. Clemens, W9ERD.—Small all-band 100 watts transmitter using push pull 807s. Built into neat 10 by 8 inch rack.

"RADIO AND TELEVISION NEWS," APRIL, 1950

P. 42: **"The Mini Rack Modulator;"** J. F. Clemens, W9ERN.—Companion unit to transmitter described in March issue. 6SJ7, 6SJ7, 6L6, class B 807 triodes. Also describes five band antenna tuner for transmitter.

P. 60: **"No Space for an Antenna?"** S. Johnson, W0LBV.—For "inside the roof" 10 metre antennae, recommends a vertical quarter wave with ground plane, or the W8JK.

P. 63: **"R.f. Power Output Meter for V.h.f. and U.h.f.;"** J. A. Houser, W2VCM.—Simple instrument using 1N34 rectifier and milliammeter and will work from 3 to 300 Mc. However it may be hard to obtain suitable high dissipation non-inductive resistors, although it is possible to make your own like the author.

P. 64: **"Transmitter Keying and Biasing Problems;"** J. N. Whitaker, W2BFB..—Good hints including one on how to shape the keying waveform to compensate for a poorly regulated h.t. supply.

"CQ," MARCH, 1950

P. 11: **"The Wide Spread Twin Five;"** E. M. Brown, W2PAU.—Two meter beam suitable for swinging from horizontal to vertical polarisation. Two five-element Yagis spaced one wave length.

P. 15: **"A 500 Watt Final Amplifier of Modern Design;"** A. E. Clark, W2PDH.

P. 18: **"T.v.i. Proofing the Command Transmitter;"** S. J. Lanzalotti, W2DVX.

P. 20: **"The Omnibox;"** C. R. Nelin.—Combination tone generator, amplifier, power supply and speaker.

P. 24: **"Putting Surplus Meters to Work;"** R. L. Parmenter, W1JXF.—How to calibrate unknown meters.

P. 26: **"An Economical 25 Watt Transmitter for the Beginner or the Advanced Amateur;"** O. L. Woolley, W0SGG.—6V6 crystal oscillator, 6L6 final, AB1 6V6 modulators.

P. 28: **"Structural Stresses in Antenna Supports;"** L. H. Hippe, W6APQ.—Simple calculations to ensure your tower doesn't blow over.

P. 36: **"Inside Shack and Workshop."**—(i) Filing your CQs. (ii) Coil shield from old metal tubes. (iii) Ganging surplus tuning condensers. (iv) Six meter bandscanning converter.

"SHORT WAVE NEWS," MARCH, 1950

P. 62: **"Observing Sunspots;"** P. B. Barrett.—Simple projection telescope for those interested in correlating sunspots, with conditions.

P. 63: **"Seventy Centimetres,"** Part II.; Major Cycle.—Construction of ECC91 (or 6J6) modulated oscillator for 420 Mc. Circuit is usual plate-cathode v.h.f. oscillator with 6J5 as a Heising modulator.

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. GRONOW (VK3WG); Federal Secretary: G. M. HULL (VK3ZS), Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Maurie Butler (VK2AAN), Box 1734 G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—A. C. Pearce, VK2AHB, 131A Balmain Rd., Leichhardt, N.S.W.

Zone Correspondents.—Nth. Coast & Tablelands: J. M. Retallick, VK2XO, Raleigh; **Newcastle:** H. Whyte, VK2AHA, Vale St., Birmingham Gardens, Newcastle; **Coalfields and Lakes:** H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; **Western:** W. H. Stitt, VK2WH, Cumbijowa, Forbes; **South Coast and Southern:** R. H. Rayner, VK2DO, 42 Pettit St., Yass; **Western Suburbs:** A. C. Pearce, VK2AHB, 131A Balmain Rd., Leichhardt, **Eastern Suburbs:** H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; **North Sydney:** L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; **St. George:** J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; **South Sydney:** V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. Dyer (VK3DY), 19 Collington Ave., Brighton (XA 6326).

Administrative Secretary.—Mrs. S. May, Law Court Chambers, 191 Queen St., Melbourne, C.1.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; **South Western:** K. O'Rorke, VK3AKR, Killigrew, Westmere; **North Eastern:** H. G. Wohlers, 107 Templeton St., Wangaratta; **Far North Western:** M. Folie, 101 Lemon Ave., Mildura; **Eastern:** H. O. Kellas, VK3AHK, Tinambra; **North Western:** C. Case, VK3ACE, Cumming Ave., Birchip.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW by arrangement only on the 7 and 14 Mc. bands.

VK6WI.—Sundays, 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.

Meeting Night.—Third Friday in each month at the I.R.E. Rooms, Wickham St., Valley.

Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—G. M. Bowen, VK5XU, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Third Tuesday of each month.

Divisional Sub-Editor.—Alec A. Smith, VK6AS, 75 Weston St., Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—S. Excell (VK7SJ), 77 Molle Street, Hobart, Tasmania.

Northern Zone Correspondent.—R. H. Kilby, VK7RK, 5 Galvin Street, Launceston.

FEDERAL

DX C.C. LISTING

PHONE

VK3JD	(1)	37	148
VK3BZ	(3)	37	137
VK3EE	(10)		137
VK6KW	(4)	37	136
VK6RU	(2)	37	135
VK6DD	(6)		126
VK3LN	(11)		125
VK4KS	(9)		121
VK4JP	(8)		114
VK4HR	(12)	35	107
VK3AWW	(14)		105
VK2ADT	(13)		102

C.W.

VK3BZ	(6)	40	177
VK2EO	(2)	40	152
VK3CN	(1)	40	151
VK3FH	(15)	39	143
VK4EL	(9)	40	140
VK3KB	(10)	39	138
VK3VW	(4)	40	135
VK2QL	(5)	40	133
VK4HR	(8)	40	126
VK4RF	(11)	35	125
VK6RU	(18)		123
VK3EK	(3)	39	122

OPEN

VK3BZ	(4)	40	200
VK6RU	(8)	39	169
VK3KX	(1)	40	167
VK4HR	(7)	40	161
VK2DI	(2)	40	160
VK3HG	(3)	40	160
VK6KW	(13)	39	157
VK3JE	(12)	39	154
VK4EL	(10)	40	140
VK3MC	(5)	39	139
VK4KS	(24)	36	139
VK3OP	(19)	39	137
VK6DD	(22)		136
VK4DO	(15)	40	135
VK3LN	(29)		128

New Members:

VK3AWW	(36)		105
VK4TY	(35)		102

SLOW MORSE TRANSMISSIONS

The following transmissions from the official W.I.A. stations are given on 3,504 Kc. on the days and times shown below:—

Sunday—VK3WI, 2030 to 2100 hours E.A.S.T.
Monday—VK2WI, 2000 to 2030 hours E.A.S.T.
Tuesday—VK4WI, 1930 to 2000 hours E.A.S.T.
Wednesday—VK6WI, not operating at present.
Thursday—VK5WI, 1930 to 2000 hours E.A.S.T.
Friday—VK7WI, 2030 to 2100 hours E.A.S.T.

ADDITIONS, ALTERATIONS, AND DELETIONS TO AMATEUR CALL SIGNS—JUNE, 1950

Additions—

VK2SF—V. Fitton, 34 Fawcett Street, Mayfield, Newcastle.
2AJO—S. E. Brown, Lawley House, Canberra.
2AQA—R. W. Amos, 56 Coral Road, Cronulla.
2ATP—T. F. Pyke, 24 Gouldsbury St., Mosman.
2AUJ—R. W. Johnston, Macquarie Rd., Ingleburn.

VK3FB—E. L. Willoughby, "Quebec," Noojee.
3UC—D. A. Norman, 10 Brighton Ave., Preston.
3AER—K. Roper, 53 Kingsville St., W. Footscray.
3AEW—O. G. G. Washfold, 59 Radnor St., Camberwell.
3AIC—P. R. Crosthwaite, 10 Wimmera Ave., Geelong.
3AOL—B. E. Lloyd, 16 Victoria Pde., Geelong.
3AUB—R. R. Babb, 32 Waterdale Rd., Ivanhoe.

VK4JC—J. M. Cohoe, 64 Jellicoe St., Toowoomba.

VK5DZ—J. A. Casey, 26 Moore St., Enfield.

VK6WJ—A. G. Wilkey, Government Aerodrome, Wyndham.
6HM—C. W. R. Holman, 9 Elizabeth St., Kalgoorlie.

VK7RX—K. A. Johnston, 34 Tower Rd., New Town.

Alterations—

VK2AL—27 Connelly St., Penshurst.
2DB—7 Harold St., Guildford.
2DI—135 Morgan St., Beverly Hills.
2FO—16 Station St., North Strathfield.
2HZ—Pitt St., Springwood.
2IY—53 Glencoe St., Sutherland.
2MK—55 Main Rd., Thirroul.
2OX—53 Burwood Rd., Belfield.
2SX—Lang St., Croydon.
2UM—97 Clarendon Rd., Stanmore.
2VC—Edward Pde., Sylvania.
2ABL—39 Ethel St., Hornsby.
2ADL—25 Ostend St., Lidcombe.
2ADY—117 Victoria Rd., Gladesville.
2AFD—88 Dudley St., Coogee.
2AFP—Cr. Massenger and Marvel Sts., Byron Bay.
2AGE—I. N. MacLachlan, 75 Weston St., Harris Park.
2AKW—251 Rowe St., Eastwood.
2ALA—Fire Station, Crow's Nest, Sydney.
2ALN—Rev. L. E. Winton, The Rectory, Wyalong.
2AMK—Montview Parade, Hornsby Heights, Hornsby.
2AMW—2 Oxlade St., Warrawong.
2ARQ—21 Hewlett St., Granville.
2ARU—F. N. Sizemore, 22 Tweedmouth Ave., Roseberry.
2ARY—Hyde St., Bellingen.
2AVT—Miller Rd., Guildford.
2AXA—E. Carruthers, should read VK2AXB in call sign book.

VK3EG—2 Frogmore Rd., Murrumbeena.
3LX—Wood St., Nunawading.
3ON—27 Mortimore St., Moorabbin.
3QK—415 St. Kilda St., Elwood.
3RB—"Sunderland House," 230 Toorak Rd., Sth. Yarra.
3RO—2 Langsford St., Williamstown.
3ABI—316 Armstrong St., North Ballarat.
3ADC—Flinders Naval Base.
3AGL—1317 Dana St., Ballarat.
3AKC—91 Victoria St., Warragul.
3AON—1 Rosshire Rd., Newport.
3AWC—c/o. P.O. Korong Vale.
3AXB—88 Eskdale Rd., Caulfield.

VK4CW—"Amshac," Sydney St., Bundaberg.
4DJ—Sheaffe St., Cloncurry.
4GL—Lockyer St., Camp Hill, Brisbane.
4OW—Mount Bassett, North Mackay.

VK5CP—19 Penfield Ave., Salisbury.
5DK—3 Victoria St., Henley Beach.
5FG—466 Cross Rds., Glandore.
5RJ—23 Railway Ter., Kadina.
5VC—12 Dunn St., Semaphore.

W.I.A. ACTIVITIES CALENDAR

August 12-13: Remembrance Day Contest.
Sept. 22-24: VK-ZL DX Contest (c.w.).
Sept. 29-Oct. 1: VK-ZL DX Contest (phone).
October 6-8: VK-ZL DX Contest (c.w.).
October 13-15: VK-ZL DX Contest (phone).

VK6AU—135 Cambridge St., West Leederville.
6DS—Whaling Com., Camp., Babbage Island.
6FD—25 Wisbey St., South Bunbury.

VK7CA—Greens Beach, West Tamar.
7EJ—Opossum Bay.
7SK—"Hilton," Powell Rd., Blackman's Bay.

Deletions—

VK2QY—Cancelled.
2AKH—Cancelled.

VK3ID—Cancelled.
3JC—Cancelled, now operating under VK2AQA.
3AGJ—Cancelled.
3AGW—Cancelled, now operating under VK6WJ.

VK4AU—Cancelled.
4BM—Cancelled.
4WA—Cancelled.

VK5GO—Cancelled, now operating under VK3FB.
5WA—Cancelled.

VK6AO—Cancelled.
6RL—Cancelled.

VK7XA—Cancelled.

VK1RA—Cancelled.

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FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Here's a new one for the certificate hunters. Any station that has proof of contact with the 58 Californian Counties, may submit their verifications to the Oakland Radio Club Inc., or to W6OT. Pre- and post-war contacts count. Who is going to be the first VK to claim the W.A.C.C.? The list of counties is as follows: Alameda, Alpine, Amador, Butte, Calaveras, Colusa, Contra-Costa, Del Norte, Eldorado, Fresno, Glenn, Humboldt, Imperial, Inyo, Kern, Kings, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Monterey, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Ventura, Yolo, Yuba, and Sonoma. The above information comes from W6REB.

Cliff (Robert Clifton) formerly operator at KX6BA is now back stateside and active on 14 Mc. under W6IAV and is looking forward to renewing old acquaintances. He expects to move on to Alaska in September or October. Cliff has about 20 KX6BA cards already made out for VK contacts, but is holding them until he gets a new call book so that he may send them direct. Cliff, in discussing price levels, mentions that in U.S.A. petrol is now down to 22 cents a gallon, new cars are down 200 dollars to 600 dollars on the price two years back. Food and clothing are also on the downgrade to a lesser extent. Rents remain at an almost prohibitive level, from 95 dollars to 67 dollars for a four roomed unfurnished place. However with 10 to 15 million new homes constructed in the States since the war, rentals are expected to drop before long.

Louis White, W6WLY, often mentioned in these notes, advises he is now beaming on Sydney most mornings around 1500 G.M.T. on 50 Mc.

Ross Adey, ex VK5 and now G3GPC, is anxious for VK contacts on 14 Mc. No information as to phone or c.w.

Eric Lake, VK4EL, who did a term as Inward QSL Manager in Queensland, has now been moved to Clevedon, some 25 miles south of Townsville. Eric, who moved there some three months ago, helps keep things going at the regional 4QN. He is on the air from the new QTH.

Welcome to Jack Files, VK4JF in his new appointment as Inward QSL Manager. Report has it Jack that you are just the man for the job. Hope you will enjoy the work. Divisional QSL Managers please note the change and the new QTH for the VK4 Bureau: Jack Files, VK4JF, Vanda Street, Buranda, South Brisbane.

OE3CC, who sends a second lot of cards via his friend Theodore Baitsch, of Holding Centre, Scheyville, N.S.W., would like a card from VK5AE, VK7OM, VK7JB and VK9GW. He requests they should either be sent via the R.S.G.B. or via his friend Theodore, who is a new migrant. It is understood that the OE stations are working with the knowledge and tacit but silent approval of the Austrian authorities, but with the approval of only some of the occupation authorities.

This bureau would be grateful for information as to the disposal of cards for VK1AJT, VK1RB, VK1JW, and VK1YM.

PY2CK in a fifth and desperate attempt to wring a QSL out of VK1VU, includes a cutting reading: "Talking of QSLs, can anyone invent an electronic device to burn the ears off all those stations who say 'Sure will QSL' when they haven't the least intention of doing so? It's not the absence of the card that we deplore so much as the dishonest habit of saying that they will send one." PY2CK adds the following postscript: "I have the electronic bomb referred to above and if you don't send your QSL after two days I burn my bomb in your ears —take care Danger."

Felix, FK8AC, has been on the sick list for several weeks, after a surgical. Latest reports indicate that he is on the mend, but will not be on the air for the first few weeks in July.

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NEW SOUTH WALES

The monthly general meeting of the Division was held at Science House, Gloucester St., Sydney, at 7.45 p.m. on Friday, 23rd June, 1950. Visitors present included Superintendent Clifford, of the N.S.W. Police Department, and Charles Peddell, VK2KN. Superintendent Clifford, on behalf of the Commissioner of Police (Mr. Scott) expressed great pleasure in being able to award certificates in recognition of assistance given the Police Department during the disastrous floods at Kempsey in 1949. Spt. Clifford commending Mr. Peddell's outstanding work, said that he hoped that the co-operation shown during the 1949 floods would be repeated in any future emergency.

As we know now, such was the case during the month of June, and Supt. Clifford forecast this happening at the meeting and thanked the Institute for its work in this field. Mervyn Harrison, also a recipient, was unable to attend because of transport difficulties in his district, where flooding had occurred. In his reply, Mr. Peddell thanked Supt. Clifford and the N.S.W. Police Dept. for their co-operation and said that the honor shown him and Mr. Harrison applied equally as well to other members of the fraternity who helped make the flood network a success.

Joe Reed, VK2JR, then proceeded to dispense words of wisdom on "Model Radiator Investigations of Low Angle Radiation" and illustrated by numerous home-grown slides. With him he had a beautifully constructed folded dipole with reflector used as a detector unit in these investigations and a cavity resonator controlled transmitter on 140 Mc. using an 808. Joe debunked many a pet antenna including the "rotary birdperch" and no doubt will be very busy sending out data slides (photostatic copies) used in the course of his lecture.

Appreciation was expressed over the obvious amount of hard work which had gone into the preparation of a subject of such genuine interest.

Dr. Allison, ex VK1RA, advised that three colour films on Antarctica will be available for showing at an early date. The meeting closed at 10.50 p.m.

WESTERN SUBURBS

There seems to be an awakening of interest in 144 Mc. lately and Joyce 2AMJ is a recent convert. Joyce has 33 countries on phone, works Ws and VEs consistently and hits them with a three element beam. 2DW was forced to move recently and now uses a 99 ft. antenna fed a quarter wave from the end with 75 ohm co-ax. Mains volts at Herne Bay jump around like a cat on hot bricks, says Joe. 2ANC works VEs in between building a new home. Garage (shack?) is first to go up and Frank flies model aeroplanes in his spare time.

2QR is knocking 'em over in great style from West Pennant Hills, the long way around on 20. 2AVT has given away 144 and works 2OQ's harmonic on 10 metres at Chester Hill. 2AAQ has good phone using screen modulation. Habitates 40 metres. 2KS does some good work in the early a.m. on 20. Currently catching Africans and Europeans. 2OQ has now obtained 100 countries. That beam must be working extremely well as Harry runs only 30 watts to an 807 on 20. 2BX is one who was marooned in recent floods at Milperra near Bankstown in June. Had to row home in a boat. Uses a vee beam. 2MM, after suffering years of pointed remarks about his meat-safe microphone, is working like one possessed to put a handsome cover over the works. 2ALO has just completed his 144 Mc. rig and is using 7193s. 2ARF is seriously considering using a QB6/300 tube in the final on 144 Mc.

The Experimental Radio Society of N.S.W. held a field day in co-operation with the Gladesville Radio Club on 9th July—144 Mc. was used. The election of officers took place on Thursday, 20th July.

HUNTER BRANCH

As these notes are being written the greatest episode in Australian Amateur Radio has just concluded. Our thanks must go to the North Coast Amateurs who put up such a magnificent showing during the disastrous floods in late June. All members of the Hunter Branch offer their congratulations. We cannot let the opportunity pass without special mention of the wonderful operating of both Pete 2PA and Gerry 2ZS—if ever there were two A1 ops, then these boys are them. As the whole story will appear in next issue, we will only deal with our local effort here.

Prior to the North Coast Net coming into operation, the Hunter Valley Net maintained regular skeds right throughout the critical periods of the Maitland floods. Fortunately communications in this area held up and the only official work done was the passing of river heights by 2VU at Singleton, 2ANU at Muswellbrook, 2TY Lochinvar, 2XQ Maitland and 2AKP East Maitland.

Communications from the area to the North Coast was done by 2ZC who had official permission from the R.I. for such a link. During the first couple of days when things were in a bad way up the Coast, a continuous watch was kept at 2ZC's shack. Jim passed much important traffic mainly Police and supply messages to and from the North. Jim did the first portion of the watch alone, but later from Saturday evening was assisted by 2AHA till morning, turns being taken on the watch during the night.

On Sunday, Branch President 2CS, assisted by 2KG, came on the watch, although Jim was supposed to be sleeping, he was still about and operating. Those who were able to assist wish to thank the local R.I. for his assistance, also the operators at Police Wireless. Communication between the duck base stations at Maitland and Taree, to Shortlands Camp was provided by 2AHA, 2AKP and 2ASJ. The Army was particularly pleased with the Amateur assistance when their links failed. Some press and aircraft messages were also received by the above stations. Special mention must also be given to Ron Stuart, 2ASJ, for his wonderful effort. Ron didn't miss a thing and his mother's short-hand copy was particiuarly useful. Operators working under better conditions couldn't have done a better job—nice work Mrs. Stuart and Ron. Vic 2AKP, as well as relaying from Maitland ducks to Newcastle, serviced some duck equipment in the Maitland area. The man with the "filtered ears" was undoubtedly Jack 2ADT of Cessnock, he copied signals that were too tough for most. 2OS and 2BZ provided a high frequency link for the local broadcast station from Maitland to Newcastle. Nev was marooned at Maitland as a result. The above emergency doings constitute the major portion of the work around the Hunter for the month.

The poor winter conditions have halted much of the usual activity. The last meeting of the Hunter Branch was well attended, even though the nights are cold. The President 2CS introduced pre-war G2DUX who hopes to settle down in Sydney and get on the air very soon. 2CS and G2DUX met during the war in the Navy. Secretary 2LV has sot been very busy on the air during the month, only heard on 40 on a couple of occasions, but is still doing an f.b. job for the Branch.

2CW was able to get on 40 during the floods. 2ANA still building the QRO rig, believes in taking his time and making a job of it. 2UY retiring from the Treasurer's job so we hear—any nominations? Stan hopes to get that 1st class ticket ironed out soon. Would like to swap jobs with 2MC these days—enough said. Bill is still not on the air, glad to see you join up. 2NX only operates on the week-ends, he is home from Sydney—has all the disposal shops picked out around the big smoke. 2AGY was on deck at Police Wireless a lot during the floods, and didn't hesitate to call on the Amateurs when required. Fred operates 10 and 20 when able.

2PQ has the new receiver working very f.b. and does a bit on 20; doesn't like the band in the winter—still better than 10 in the winter Tom. 2FP not very active on 10, working only a few Ws. 2TE been on 40 with a very powerful signal quite unusual to hear Bert so low. 2CI heard on 40 and 80 only during the week-ends; away most of the week. 2XY has 2 metre gear going, but don't know what he has been working. 2ADS having fun on 10 with his QRP and beam—6 has been fairly quiet; 2BZ seems to be the main sticker. Sydney stations are poor with the exception of 2ARG. 2KG still hopes to get going soon. After such a good start, Bill 2XT seems to have QRT. 2AAI still re-building, only on for local contacts; has converter going OK now. 2AGD not on 10 much with conditions so bad down there; why not use 40, a lot of the Northern boys would like a yarn with you. 2CN doing a lot of hunting for motors for the beam, etc. Rx might have been double spotting, but we did hear 2DG on phone on 80—got a glass arm Keith, or are you resting it for the next Contest? 2AKP's only activities were during the floods and emergency net practices. 2XQ had the Hunter Net right on tap during the whole of the emergency. All the water in John's back yard has altered his angle of radiation so much that even his quality is improved!!

AMATEURS AGAIN HELP IN AN EMERGENCY

The full story of the activity of N.S.W. Radio Amateurs in the disastrous floods that swept Northern N.S.W. in late June is not yet complete. It is being prepared by Peter Alexander, VK2PA, with the assistance of the many Amateurs that participated.

It will be a story of the services rendered the community in the greatest Amateur emergency working in history. Nearly 20 stations were operating from the North Coast flooded areas—the only means of communication in most cases from these districts. On the Hunter River the emergency net was also in full operation.

Floods have also interferred with the production of country zone notes. North Coast Zone Officer VK2XO was flooded out and Crieff is still clearing up—we hope that the damage was not too great. In the West, Z.O. VK2WH is isolated by flood waters and John Marr VK2AMV contributed the Western Zone notes, this time helped by some phone information from Hugh VK2WH.

Busiest man in Maitland during the crisis was 2ADX, the City Engineer; he was on the job practically continuously, how they saved the river banks from breaking was a miracle. 2TY was also very active, mainly obtaining river heights from Singleton way—2VU supplying the information. 2JZ is also an expert on reading river heights—some of the gang were reading R.M.S. heights instead of peak so we hear—2VU will supply the details. One of these years we will get some news of 2AMM and 2PT—so c.u.l. A bunch of associates of the Hunter Branch are giving the code machine a good work out. The associate from Stockton expecting a call sign, congrats on passing, hope to remember your call sign; what a memory I have for names.

COALFIELDS AND LAKES

Main interest in the past month has been the work done by the various Amateur Flood Emergency Networks. This work performed by Amateurs from Newcastle to the Queensland border has been invaluable and in many instances provided the only means of communication for many days. Listeners on 40 and 80 would have heard the various stations operating. Here in the Coalfields, we escaped the flood damage, but several stations in this area were listening continuously and ready to come on if required. Others around Maitland and towns on the Hunter Valley did good work in supplying rainfall and river heights, indicating the water to be expected at Maitland where damage was the greatest.

Stations active were 2ANU Muswellbrook, 2VU and 2JZ Singleton, 2TY Lochinvar, 2XQ, 2AKP and 2DG Maitland District, 2ADT and 2YL Cessnock and 2KZ Kurriburri with 2ZC, 2AHA at Newcastle. The last two stations also did good work in conjunction with the North Coast net. 2PA's effort, in my opinion, was a very good one. 2ANU had a consistent signal for his few watts. 2VU's 80 signal is in keeping with his signals on 6 and 40, Geoff is building a v.f.o. too. 2JZ seems to stick to 10. 2TY works all bands. No news of 2KF for a while, guess he is busy in his own home. 2YO can be found on 10 phone, likewise 2KZ most week-ends still knocking the Yanks over. Max also shows up on 80 for the emergency net working.

2PZ hasn't been heard yet, but Chris must be getting near the end of the work now. 2ADT has had a mixed month—'ffu claimed him for a week, then Jack decides he should build himself a decent sort of frequency meter, the last part of the month was spent keeping watch on the emergency frequencies. Six has had a spell for a while. 2YL not very active, doing a little at 14 Mc. c.w., kept an ear on the flood net activities, etc. Hopes to spend a little time on 7 Mc. from now on and would appreciate a call from anyone in the Lakes area re the doings there. Give me a call on c.w. or phone. 2RU may be found on 6 Metres, but have not heard 2AMU for some time, maybe the "stars" hold Len's interest. 2KR, of course, is always to be found on 40! Any Lakes stations who have any news and who don't contact me, please drop a line to 27 Comfort Ave., Cessnock.

WESTERN ZONE

The main item this month seems to be floods. The Lachlan Valley copped it again early in June, not nearly as bad as the April record one, although it got to within 12 inches of it. At present your Zone Officer is again flood bound for the third time this year. The ducks were again in action with the local Amateurs helping with communication. On behalf of the Western Amateurs, I would like to congratulate the North Coast boys on their fine effort. Things like this go a long way towards helping Amateur Radio and the community.

2XP did the round trip through Forbes. No time for visiting Amateurs there, but made up for it at Yass where he called on 2DO and 2ALS, also 2APP at Young. 2XO was a welcome visitor to Dubbo on his way through. Pity you missed Forbes Crieff. 2AMR off the air, believe he sold his Rx to 2AOS, has new Rx on the way. 2AOS is a new Ham at Dubbo and I believe he is active on 20. 2ACT now has a.c. on. Heard on 7 Mc., nice phone, using 813 and vee beam. 2II still very busy with new house and rarely on the band these days. 2VZ still tuning up his tilting beam. Many thanks Bob for the Dubbo news.

2AGK heard on the band using TA12D Tx and Mod., Rx Marconi, antenna long wire. Active on 20, 40 and 80. 2NS must still be having trouble with wind. We thought only babies were troubled with things like that. Haven't heard him on 40 for a long time. Have noticed some DX stations working him on 20. Believe there is a new one in Trundle, 2XZ. How about a bit of news from that quarter OM. 2ACU has a most peculiar complaint, "Peanuts in his Epigloitis." I am lucky Rod that part isn't in my Tx to give trouble. Rod seems to be very happy with his new 680.

2APP paid the Forbes gang a visit recently. All very pleased to see you. 2BT and 2AMV are both very busy re-building after a visit to the studios at Dubbo. While over there, they made the mistake of calling in to see Tom and Max. 2JV still too short of room at the pub to put up a Ham Station. 2QA must have his head in that three tons of radar gear he got at Dubbo. Haven't heard you on the band for some time. Have you tried getting reflections from the moon yet Jack? 2JC heard doing weather reports for the North Coast gang during the floods. No news from 2DK. 2ALX and 2JW must be on two metres as we can't hear them at Forbes.

Hear 2EI occasionally on 7 Mc. Not often enough Lin. No news of 2SN from Parkes. Often hear 5DK (ex-2AAF) putting in a very nice phone. 2WH has given the Ham Bands away. Seems to prefer talking to the ducks. You did a very good job Hugo. There whenever wanted and able to hear sigs that didn't even beat with my b.f.o. on the AMR300. Hope you don't have any more this year. Most popular song of the month—"River Keep Away from my Door." Activity on the Blue Mountains is practically nil, none of the Amateurs can be enticed away from the fire. 2HZ still not on, but has been wandering across to 2EX's to work a little. It is hoped to have more news next month if the snow passes.

SOUTH COAST AND SOUTHERN

We offer our apologies for the lack of news this month. The conditions on 40, which to the Zone Officer is the main source of gossip, have been bad. As the daylight hours are taken up with the job of keeping the wolf from the door and you can't hear anything at night, so hence the lack of news. 2TC is active on 80 and is really laying down a very solid signal; the old rig is working OK Jim, judging from the quality of the phone. 2APP also doing a fair bit on various bands, mainly interested in antennae—a vee beam is the latest. 2PN is handicapped by the lack of time. New rotary beam on 6 is higher and more effective. Good signals are received from 2GU and the 6 metre path between Canberra and Tumut is fairly reliable.

2JQ caused quite a lot of fun on 40 one morning when he was heard exercising his polar bears. One station in the net doubted the fact of polar bears being at 2JQ, so Monty brought the bears to the mike—I wonder just what your audience numbered that morning Monty? 2TA travelled across to Canberra to spend some time with 2GU. Guess something cooking on the v.h.f's. if Alan considered the 100 mile trip so necessary. 2AEL putting out an f.b. signal, but unless Les shoots along some details of the doings out West Wyalong I guess we will have to resort to some eaves-dropping.

2ALS has compass receiver going nicely and Cecil is building a converter for six and ten. Only station heard from Canberra this month was 2PI. Les was only heard for a few minutes and no other news of A.C.T. The little time I spent listening during the month was taken up following the operation of the North Coast Emergency Net. The efforts of the gang was something that every Ham should feel mighty proud about. The interviewing of 2HZ on the Macquarie Newsreel I am sure showed the listening public that Ham Radio is necessary and in an emergency has proved a blessing.

My introduction to the A.R.R.L's. Voice of America happened in rather a strange way. Having gotten myself one of these compass receivers, I was tuning across the b.c. band after the locals had closed down, when suddenly the well known American accent was heard introducing W2SKE on the Amateur session. As requested, 2PN sent along the following news. 2GU has a new beam up too and signals from 2PN over the 4000 ft. hills are now at a decent level at all times. 2TA going strong and the three stations have regular skeds. 2GU is going on a month's holiday soon so the skeds will be missed for a while. 2BW too busy to get on. A new Ham will soon be on in Tumut, Geoff Page; we wish him luck.

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VICTORIA

The monthly meeting of the Division was held on 5th July at the Melbourne Technical College. There were about 150 members and visitors present. The President, Bert Semmons (3GS), being in the chair. Owing to the QSL Manager being a little late in arriving (no fault of his), the meeting got away to a start at 8.15 p.m. Visitors welcomed were VK3AFQ, 3ATN, 1RD, 6GA, 3ADV (ex-VE7ADV), and John Adcock. To all these visitors the President gave them a very hearty welcome and expressed the hope that they would have an enjoyable evening among the boys.

At this stage Standing Orders were suspended and the President invited Mr. Trehearn VK3AFQ to tell the meeting something of his experiences whilst he was in England. In relation to t.v.i., Mr. Trehearn opened his remarks by describing the relations between the Amateur and the British Post Office, the frequencies used, power, antenna systems. After outlining these subjects, he came to the main topic, t.v.i. Many are the trials and tribulations besetting the Ham, but full co-operation is given to the Amateur by the British Post Office Inspectors and the relations between the two bodies are most cordial.

Unfortunately some "lookers" have rather old receivers and very little if anything can be done to overcome the t.v.i. If any interference is experienced, of course the Ham is to blame(?). In conclusion the lecturer said that the proposed Australian television service, if placed on the v.h.f. bands, the problem of t.v.i. would not be quite so bad. So boys, see to that final stage, and get the bugs out and also, if necessary, neutralise the stage. Many questions were asked and were fully answered by Mr. Trehearn. The President expressed his appreciation on behalf of the meeting, and a vote of thanks was carried with acclamation.

After the usual "smoke-o" the Secretary read the previous meeting minutes. No business arising therefrom, the Treasurer gave his report and reported the finances as satisfactory. He stressed the point on outstanding dues. There are still a few of the boys unfinancial. T.A.C. reported on their activities and stated that 3WI nearly completed under the direction of the technical editor Jack Duncan. Disposals still active and a screed to be issued soon. V.h.f. Group reported that activity on these frequencies is increasing. (What about it some of you 40 metre boys for that cross town natter.) The practical nights are a great success. Class Manager reported the new class starts on 13th July and everything going f.b. Communications: The usual skeds and hook-ups going along all right, but very little news comes through. Our script writer has resigned owing to pressure of business.

A few minutes were left so 3ADV (ex-VE7ADV) was invited to tell us something of the Ham activities in Canada. The set up in that country is very much like our own (also no t.v. as yet). Jim gave a very nice concise talk and was thanked by the President and members. The meeting closed at 2230 hours.

New members admitted to the Division at the July meeting were 3AAL, 3ALK, 3AFF, 3AE, 3ANP, and Associates J. Carrucan, R. Dempster, and H. S. Wragge. To these members we give you a hearty welcome. 3ALQ has gone two metre happy. 3AJI wondering why the 80 metre rig won't work. 3RN still worrying about bits and pieces and QRO. 3BZ on the sick list. Where was 3JO and 3OJ; no see Herb and Bob. 3JE playing around with super modulation and how. An old timer, 3ZP, has appeared on 20 metres.

THE MOORABBIN AND DISTRICT RADIO CLUB

The usual monthly meeting was held in the club rooms on Friday, 16th June. Although the weather was cold, the usual number of members attended and the President, Jim Keenes, occupied the chair. The Treasurer's report disclosed a very satisfactory state of the club's finances. The President reported on the erection of the mast at the building and personally thanked the helpers and donors of various bits and pieces to help enable the club's transmitter (3APC) to get on the air.

A new service to members is the collection and distribution of members' QSL cards. This service will be available as from the next meeting. It was resolved to try and hold the "project night" on every second Friday.

As a means of bringing this club under the notice of radio enthusiasts in other countries and also VK land, a scheme was outlined by 3FO and fully discussed. Morrie 3BZ and Bill 3JE were appointed to get the idea under way. The agenda item was a talk by Fred House, 3ARK, on the radio link between Melbourne and Bogong. Unfortunately the club could not procure a film strip projector, and Fred was a little handicapped in illustrating his lecture. However, the talk was listened to with rapt attention by all. In thanking the lecturer for his f.b. talk, the President said that it was very good to have one of the club's members imparting knowledge to others and he hoped that other members would follow the example.

The next meeting will be the third Friday in August when a demonstration will be given by "Pyrox" on their wire and tape recorders. The club has now a total membership of 43 members, 23 being Hams, and is still ready to welcome many more.

EASTERN ZONE

This report should have been compiled by 3SS, but he says that the Eastern Zone gathering at Omeo on King's Birthday week-end wasn't a convention, and what am I paid for, anyhow? The week-end of 10th June dawned bright and clear and several vehicles carrying a large number of the Hams of the Eastern Zone, accompanied by XYLs and junior ops., wended their way to Omeo, which is ruled by one Bill Williams, 3WE. At least Bill runs the local paper, so I guess he is the boss. The highlight of the trip up was at the hostel at Tambo Crossing where the lolly water addict, 3SS, actually invited me into the bar and purchased me a beer. (It's the truth, Mr. Sewell!)

We arrived at Omeo about 4 p.m. and while cruising down a hill we came upon a house with a nicely painted pole in front and portions of a beam antenna lying on the verandah, we deducted that 3US/3VL resided therein. On arrival at 3WE's residence, the Old Man appeared and made us welcome. Later several of us called on Rex and Gwen who were also pleased to see us, at least that's what they said! Later on the Sale boys and girls arrived and were made much of.

Sunday morning's weather was typical, a nice 24 degrees of frost, but the sun soon warmed us up. Before lunch, 3TH, 3VL, myself and XYL travelled several miles up the Omeo Valley to a place where cream was available. The rest of the gang stayed with 3WE for the broadcast.

We all had dinner at the "Golden Age" and the cook made a beautiful job of cooking that turkey. There were nineteen of us all told and fifteen of us went for turkey, the other four preferring witchetty grubs or something. After lunch, the younger members of the party expressed the desire to see snow at close quarters, so we piled into our various jalopies and headed for Mt. Hotham. The hills are very steep and the road in places was very greasy, but the convoy pressed on to within six miles of Hotham. The children and adults, having pelted each other with snow, we drove back a few miles and lighted a large fire. The ladies of the party, assisted by "Jaffle Iron" Scott, leapt into action and unpacked large quantities of eatables, which were dealt with in short order. As dusk approached we proceeded back to Omeo.

In the evening all hands gathered at 3WE's domain, and the usual hook-up took place, which, considering that about the only active zone Hams not present were 3PR and 3AEP, was no mean feat. 3YJ also called up and was welcomed to the fold. The hook-up being completed, we adjourned to the lounge and spread ourselves round the fire. The meeting came to order when 3SS, in his usual manner, complimented our hosts and hostesses on their good work and thanked them for having us. Mr. and Mrs. 3WE and 3US/3VL suitably responded (how am I doing?) and we got down to discussing the coming Convention. It was unanimously decided to hold the show in Sale and 3VG, 3ABF and 3AFG were instructed to boost the entire Sale gang into action and make the necessary enquiries and arrangements. Main business being concluded, the usual Ham conversations went on, ranging from aerial radiation patterns to the old standby, phone versus c.w. A large and sumptuous supper brought the evening to a close.

On Monday morning we drove out to McMillan's lookout which is a high spot about seven miles from Omeo, on the way to Benambra. After lunch had been taken, the cars wended their way back home. It was a swell week-end and we visitors "dips our lids" to our hosts and hostesses. Thanks a lot chaps. Visitors at Omeo were: 3SS and junior op. David; 3VG, XYL and two juniors; 3ABF, 3AFG, 3TH, 3QZ XYL and junior, 3AHK and XYL.

3ANC has a new car—he's rich. 3QZ celebrated his 20th wedding anniversary—congrats to you both. David Scott is learning all the theory, complete with algebra; he dazzles the old man with science now. A sub-branch is to be formed at Sale. As we are all broke through buying disposals gear, there will be no members' fees, so pull your hand back Charlie Quinn. 3GO has returned from his honeymoon. On Sunday, 2nd June, conditions on 80 were queer. Usual S9 sigs were barely readable and by 9.45 p.m. the band practically closed down. The zone intends to hold a portable field day later in the year.

A complaint.—There are some very solid signals on 80—3AKR is outstanding, but unfortunately some of these signals park right alongside 3650 Kc. on a Sunday night and one or two are inclined to splash over a bit. Could we have a reasonably clear channel for an hour or so chaps?

This is all for now and remember chaps, if you don't get a mention in the notes, it's because I don't know what you have been doing (in the radio line) through the month. Cheerio.

CENTRAL WESTERN ZONE

By the time these notes appear in print it will be getting near to Convention time and if members present will cast their minds back to the Maryborough show, they will remember 3TA's offer of prizes to be awarded at the next annual convention for progress in the v.h.f. field, and also for work on the 3.5 and 7 Mc. bands, so don't hide your lights under a bushell, but let them shine before 3TA and his committee, these prizes of course were for zone members only.

As your scribe has been exceedingly busy over the past three weeks and nobody ever sends him any news, these notes are going to be very scanty, however for members' information the zone frequency meter is still in operation and available for frequency checks or on loan to any member requiring it. By the way, the Bendix, besides being good for r.f. checks, is also a handy audio oscillator in its lowest range; the gen is quite simple, you beat the v.f.o. against the crystal check and there you have it.

Our active friend 3ARL ran into a spot of b.c.i. after a week or two of operation on 3.5 Mc., but on checking the b.c. set found it was very hot and full of oscillation. After a trip to the local serviceman all was well, so apparently it is not always the Ham to blame. 3HL has now invested in a 15/- crystal insert and improved his quality no end. Allan is also very busy on a 14 Mc. p.a., and will soon be tickling the vee beams once more. The 348 has passed all tests and is now perking away on all bands. 3AKW is very busy in Stawell at present doing some repairs. His 144 Mc. converter is still on the way. 3AKP is quiet at present, and studying heat radiation from the family fireside. 3DP is another undergoing a winter resting stage; last heard of, Jim had the 50 Kc. i.f. already to wire and it should not be far off now.

Our ex-member 3AJO is having trouble all ways at Ballarat. No place for the Tx and no time for operation. However, he is learning all about many strange items of gear in the S.E.C. rigs. The scribe was quite excited over the recent s.s.s.c. article featuring crystals in the filter, as its author says "it's the simplest to date," the only snag is the price of a pair of crystals £7/15/-, so it is still n.b.f.m. for yours truly. And speaking of the said unfortunate yours truly chaps, it will be necessary for the zone to elect a new Secretary-Treasurer at the next Convention as things are here at present, I will not be available for re-election.

These notes are like a 3WI broadcast—growls at first because of no news, but somehow they seem to fill out. Anyway—see you on the next zone hook-up, 13th August, 10 a.m. on 7150 Kc.

SOUTH WESTERN ZONE

3HG is still working the 20 DX successfully and has skeds most mornings and evenings with G3BUU. Neil's rhombic is certainly going well and is now contemplating a vee beam on top of that hill behind the house. The only snag is the 1,000 feet feed line which would have to be used. Neil is also very busy carting materials for the new house which is being constructed. 3JA still has the Sunday morning 80 metre skeds with Neil. Think I

will join in some day. 3RE (the only Hamilton chap I ever hear of) has also been after the DX. I'll swop half the Tx ability of my vee beams for whatever you are using to hear it Bill. 3EQ has his Type 3 alongside the fire and works occasionally on 80 metre; a fine sig too, only audio needs cleaning up a bit. 3YE has been around quite a lot on 80 this month and puts out just as consistent a sig as he does on 40. Still bemoaning the bent elements in that tetrode Vern? 3AGE is still pretty busy in his spare time setting up the new shack. When's the opening day. 3KX has a super new 20 metre beam and is working Europe at lunch times. Sure must be beaut Ron as I cant even hear it here. Location must have a lot to do with it I guess.

Nothing heard of 3QC, 3AMP, 3AGV, or 3ZU. 3ADN of Lismore has been quite active and puts through a whale of a signal here and most places else on 80 metres. Was talking to 3II the other night and was complaining about the cold. Leigh made it worse by telling me he was packing swimsuits and sports shirts and all his summer woollies in preparation for a trip to VK4. Wish I was going! 3AGD is also going North, to VK9, about the middle of July and has been suffering lately with stiff arms and sundry lumps from the innoculations. 3VA is still battling on and has renewed interests in 144 Mc. 3ZL and 3GM are very active on 2 and are making regular Melbourne contacts.

3AKR has at last heard things (no wise cracks, please) and what's more worked it on 144 Mc., having made contact with Ballarat. Also, up till time of writing these notes, has heard and identified 3YS (Melbourne), also one other station, presumably from the City, in contact with 3ASL.

A new comer to the Geelong gang is Peter Crosthwaite, 3AIC, who is now operating on the 144 Mc. band and was heard working 3BU, 3VF, and 3AKE on that band. Another new Ham is Brian Lloyd, 3AOL, and is now operating on 40 and hopes to be on 2 shortly.

3AJT has been working DX on 20 which includes DL, I, KR, CO, VS1, PK, PI, XZ, HB, G, W. He now has his rotary beams up on a tower and looks very nice. The 20 beam is a four element, while the 10 metre beam is a four element closed spaced. Has built up a new aerial coupling unit. 3IC still working plenty of VK6s, has built up a pre-amp for his modulator. 3VF has put up a vee beam on 20 metres, but complaining about the band being dead. 3ABK is still away. 3APG, 3CM, 3AGS not active for some time. 3BU still heard on the bands quite a bit, also 3WT. 3ABC still operates on 20, never hear him on 40 these days.

GEELONG AMATEUR RADIO CLUB (VK3ATL) HAS ITS SECOND BIRTHDAY

A committee meeting preceded the usual club meeting. The business of the club was discussd after which the syllabus items for the next 12 months were drawn up. They include visits to Ham shacks, lectures, exhibition of gear built by members, field days and nights. In connection with the field days a point system by which competitors may be judged was discussed. The next meeting was the annual general meeting. After the minutes of the previous annual meeting were accepted, new officers were elected and are as follows: A. Forster 3AJF, President; Ed Kosseck 3AKE, Snr. Vice-President; R. Wookey 3IC, Jnr. Vice-President; Peter Cartwright, Secretary; A. Bell 3ABE, Treasurer; F. Freeman 3ALG, Publicity Officer. The Committee consists of W. Brownbill 3BU, W. Barrett 3WT, Brian Lloyd 3AOL, and Bob Reece. Club member Peter Crosthwaite was congratulated by fellow members on attaining his Ham ticket, his call sign is 3AIC. The club has been operating on 144 Mc. band with a modulated oscillator.

FAR NORTH WESTERN ZONE

Things are improving every week in this zone. Our Sunday morning hook-ups at 9.15 usually consists of five stations which isn't a bad effort for this zone. 3TI is back with the gang after a long period of silence. 3FC and 3AFC, our Ouyen members, manage to make the grade on Sunday mornings, although Fred has been a bit busy with the new car and making a place to house same. One of the highlights of the past month was a visit from Ben, 3RK, who has managed to arouse quite a considerable interest in 2 metre activity. All the lads are now getting busy learning about the v.h.f. tchnique and it is hoped that there will be some stations on that band before very long. However we will let you know when you can expect to hear from this area.

3AUG busy building shack so when that is completed he will be able to settle down and complete all the gear he has plans for. Nothing but silence for 3MF. 3GZ on at week-ends only for short period and an occasional lunch time listen. Jim Power making alterations to his double conversion super. Jim hopes to have another shot at his ticket in the near future. Well that's all for this month. 3MF looks like being absent from the air for a while as he has just announced his engagement. Congratulations Harry!

QUEENSLAND

We open the notes this month with Council's expression of thanks and appreciation to 4RU and the Townsville gang for their good work in connection with the purchase of disposals gear. At the time of writing, 4TB and 4RC are on the sick list and Mr. J. Baker is acting as Assistant Secretary of the Division.

4JF, our QSL Officer, advises that the following should send stamps to the Bureau for QSL service: VK4s AJ, AR, AZ, BT, BA, BR, CT, CO, CJ, CG, FG, GC, GG, GX, HV, HT, HK, KA, KK, KC, LA, LT LF, LK, ME, MR, MM, MW, PX, PK, RP, TR, TT, BU, VK, VD, XG. There are cards for these Hams and required stamps to the Bureau will do the trick!

Budding Hams will be pleased to learn that this Division has made all arrangements for the holding of A.O.C.P. Classes. Theory on Monday nights and Morse practice on Thursday nights. The meeting place: room 4 Y.M.C.A. Building, Edward Street.

Anyone knowing the whereabouts of Mark Weston, pre-war 4XO, should contact the Secretary of this Division.

To all Hams who took part in the recent flood emergency network in VK2, VK4 extends its heartiest congratulations on an excellent job. 2PA carried out an enormous task with the greatest efficiency. Peter handled about 600 messages and remained on duty for a week and, we believe, with only four hours sleep in that period. It is most disappointing that great publicity was not given in the daily papers and we were amazed that a certain Government official in thanking all concerned for the work done during the flood omitted to mention the work done by the VK2 Hams.

Recently 4MF motored to Pialba for a week-end break. Frank reached Maryborough OK, but there was completely lost until a New Australian on a motor bike piloted 4MF out to the Pialba road. There was no W.I.A. hook-up that Sunday morning, although 4UX called frantically for the usual gang to come in. However Claude's cries were eventually answered by 4XG. Fancy Gus coming up on the 7 Mc. phone band! 4HR is another of the v.h.f. gang who has been heard recently with very good phone on the 7 Mc. band.

During the month I had the pleasure of a visit by two visiting VK2 Hams, namely 2UP and 2ALD. Hams in the Nambour and Lockyer Valley areas should keep a watch for 2UP as Clive expects to be working those districts during the next month or so.

Very little has been heard from the various zones this month and the only activity from Gympie area is 4HZ's oscillating buffers; 4XR and 4LN lighting bulbs at the end of feed lines of each other's beams. 4HD is very keen on 144 Mc. and hopes, soon, with the help of an elaborate beam, to put a signal into Brisbane.

From 4CG we learn that up on the Downs the cold and very wet weather in that fog bound zone has kept the boys in front of the fire, or in bed, if firewood is too expensive. Activity is at an all time low at all shacks. 4WY seems to have a warm place for his rig as he seems to spend a lot of time on 40. Have not heard 4CU so it must be cold at Clifton (we know it's wet—16 inches in 7 days).

V.h.f. enthusiasts seem to be having a lot of fun by the fire though. 4TY has the 144 Mc. bug and seems to have a nice rig out Milmerran way and spends a lot of time and petrol testing with 4KK, with whom he has exchanged words on that frequency. 4XN still sticks to 50 Mc. but believe there's just a slight 144 Mc. tingle in his blood at present. It still amazes us here, on the Darling Downs, that no Brisbane station has been worked from home QTH's over this 80 mile path. And to think we have the two top ranking stations in the State in this zone. An apple for the correct answer.

4DA and 4RF non est. 4EG heard on 7 Mc. 4AF putting out a nice signal on same band. Warwick gang still very quiet. New one, 4RH, doing nice work on 40 metres from country QTH. Only activity at 4CG of late is the installation of n.b.f.m. using a special design of modulator—not the usual reactance type (what about some dope on it Cliff?). Results have been encouraging and tests are proceeding as activity on the bands permit. A G and a W have been worked, so here's hoping. 4CG adds his congratulations to the VK2 Amateurs for the work done during the recent disastrous floods. Cliff says "it's one reason why EVERY Amateur should be trained in the Emergency Network, not only the ones with portable." (There you are Cliff, your stories-verbatum this month—hi!)

From 4CC we have the following on the Brisbane zone activities.—This takes the prize for the month. It appears that 4AH was on a very flimsy cat-walk at the top of his beam tower the other night. His XYL, not knowing where he was, decided to have a look over the band, or something like that, anyhow, she turned the beam motor on and around and around went the beam with poor old Doc 40 ft. above the ground ducking under the beam every time it came round. I believe he finished up hanging on to the reflector and going around with it until somebody heard what appeared to be an angel crying in the wilderness. We don't blame 4WJ for being proud of his beam. Jack is tickled pink now that he is using shielded twin feeder, he claims that the diathermy machine across the road can now go its hardest as far as he is concerned.

Those who work with 4JR have been waiting anxiously for the great day when he will be on the air. Jack has been building the rig for at least twelve months, nevertheless we know Jack's little boy has been having a tough spin, so that could account for the delay. Best of luck Jack! 4PR is over-joyed with the results he is getting from his 813—judging by the results he is getting we are of the opinion that "Peter Rabbit" has four 813s in push pull parallel, guess there must be something in compression after all Jim. Anyone wanting a check should call 4PR and Jim with the aid of his panadaptor will tell you how many thousand Kc. of the band you are using.

4LM seems to have plenty of friends in South America. What have you that we haven't Les? Guess the only way is to get the XYL on the salt shaker if we want results. Can't see much QRM from 4DM within the year or two, as Phil is going to build his own home. Wish we had his energy

—even if we did it's an even bet that the place would be condemned. Anyhow, I know that if anybody has any spare cases of nails for Phil, you will be his lifelong friend. It's nice to hear 4GJ on phone again, very nice quality too Glen. Let's hope you work the Ws by the dozen. We will be watching closely to see how that new type beam works.

Believe 4TT objects strongly when washing day comes around as a line full of washing on the antenna won't load up nearly as well as without it, or perhaps it's Mrs. 4TT who claims that the clothes get scorched with r.f. when Tom uses her washing line—haven't been able to clear up that point. Who was it that claims that because his masts are made of green timber, his antenna gets higher every day? 4NC said his tonsils are red raw as a result of his attempts to raise a KH6, suggest you put golden voiced Claire on the job—bet the KH6 comes in hook, line and sinker, Charlie.

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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for June took the form of a film evening and lecture at which the members were the guests of the Public Libraries Board in their theatrette on North Terrace. Mr. Canning (of Philips Industries) was the guest lecturer and his subject was "Radio of Tomorrow—F.M. and Television." It was realised by all present that the lecture was intended for the laymen present and therefore it would not rise to any great theoretical heights, and we were not disappointed. However, the films shown were entertaining enough and everybody appeared to be satisfied. Just in passing I feel sure that the projectionist did not realise the number of professional projectionists who were among the audience, as he would have probably felt like jumping out of the window after the film broke the third time. Unless one has been a projectionist in a theatre, one can never realise how smug one can feel sitting in an audience as the film breaks! 5YQ-at question time asked a suitable layman's question of the lecturer, to wit, "What was the price in England of a television listener's licence, or should I say a television looker's licence." This question was so laymanlike that it stumped the lecturer, but he had a shot at it and as there was nobody present who could contradict him, it was accepted as gospel. That was a dirty one Ted, although I was going to ask him what would be the fare in a bus from Paddington to Nelson's Monument, but I lost my courage at the last moment. Two of the most important members of the Council and one very unwilling victim of circumstances were the guests of the Libraries Board at supper after the films, but more of that sad event later.

Bill Pitchford (ex-5WP) has been discharged from hospital, and is now fit and well and has resumed work. There will be no need for the portable transmitter and receiver, etc., and nobody is more pleased than Bill. Several members are still ringing Doc Barbier (5MD) at various times in connection with secretarial business. Doc is no longer Secretary of the VK5 Division and all Divisional business is now being handled by "Shylock" Bowen (5XU), the new Secretary. Doc is now the President, so what about giving him a well deserved rest. 5PH, who was this year elected to the VK5 Council has been reluctantly forced to resign as from this month, owing to feeling a little off colour, and also to the fact that his XYL is not feeling the best. Bad luck Perc, but hope things will brighten up soon, and then perhaps you will see your way clear to rejoin the ranks of the Council.

Probably everybody has noticed that 5DW has not been given the high sounding name of Custodian of the Frequency Meter this year. He is now known as the Equipment Officer, and I admit as to being the one who moved in Council to have the alteration made to the name. I always have looked cockeyed at such a "highfalutin" designation, because it reminds me of the story of a local City Council who advertised for a rat catcher, and not receiving any applications for the job, they re-advertised for a City Rodent Operative, and had no trouble in filling the position.

Country members are asked not to call VK5WI on Sunday mornings on that station's frequency, for obvious reasons. By all means call up Hal for any information concerning W.I.A. doings, but away from his frequency please, a lot of you fellows don't realise how long you call, and the QRM to everybody else is terrific. How about it gang?

Everyone of us will remember the thrill of our first DX contact, and every one of us will remember just how we felt (personally I felt as if I had a football deep down in my throat, and every time that I wanted to speak, the darn thing would keep lodging near my Adam's apple), but never have I been able to hazard a guess as to how I must have sounded. Well, this week I had the exhilarating experience of hearing Mal Mayer (5NM) work his first DX station (VE7OJ) and now I know just how I sounded some 20 odd years ago. All I can say is that if Amateur Radio can give such excitement and unfeigned happiness to a Ham and his XYL, then quite a few of those wives who look sideways at their husband's hobby should have been tuned in to that contact. Good luck to you Mal and Audrey.

I have always been a little dubious of the results that might be achieved from advertising in "Hamads" which can be found in the back page of this paper, but after my personal experience last month I can recommend them to anyone. In fact I had received my first reply even before I had received the "mag," so that's service for you. Regarding the numerous people who rang me up on the phone and offered me crystal detectors, cats whiskers, and sundry ancient radio apparatus, I can only say that I did not realise that so many of my public had my interest at heart.

Out of the night that covers me
Black as the pit from pole to pole.
I thank whatever Gods may be
For my unconquerable soul.
In the fell clutch of circumstance
I have not winced or cried aloud.
Under the bludgeonings of chance
My head is bloody; but unbowed.

The above lines from William Ernest Henley's "Invictus," illustrates very well the predicament that I find myself in this month. At a Council meeting recently our President, Mr. Edward "iron hand in the velvet glove" Barbier (5MD) announced to all and sundry, for my benefit, that after the film evening, two of the most important members of the Council would be staying to supper. For the purpose of refreshing my memory when writing these notes, I pencilled, very plainly for him to see, "two drongoes to stay for supper." As I had hoped, he complained to the gathering regarding this, and I was suitably disciplined. In last month's "mag," I made several mysterious references to "two drongoes," with the intention of going to town about it this month. However, Mr. Simon Legree, I'm sorry, Mr. Edward "etc" Barbier fixed it with the Public Library Board that I was invited to supper after the film evening. Therefore there were three drongoes to supper, and it goes without saying that I was the biggest drongo. Every bit that I ate nearly choked me, and the four cups of tea that I forced myself to have, tasted very bitter. Hal, who was drongo number three, did not let me out of his sight all night, apparently for fear that I would escape, all of which was I suppose, organised by drongo number two. They both commented that if I was nearly choked with every bite that I took, it was just as well for the Libraries Board that I was off my form for eating. I resent this, as all I had was eight sandwiches, four pies, and several pieces of sponge cake to top it all off. I still say that every bite nearly choked me.

It has been suggested in some quarters, I repeat, in some quarters, that the reason that 5KX was elected to the Council was because he has a new shiny car, and also that he lives at Henley Beach. This statement is very near to libel, and I would like to say that if my palsy walsy John sees fit to offer me a ride to Council meetings in his new, roomy and splendidly upholstered car, which by the way purrs along the road at terrific speed, and with a comfort that has to be experienced to be believed, then it is my own business entirely, and does not concern any ex-secretary of this VK5 Division. So there!

5TW has been heard on 40 phone quite a lot lately, and Tom has been also heard talking a lot about 6 metre converters, so it looks like another "six" fan in Mt. Gambier this summer. 5KU has now a.c. at the front door, so guess the local QRM is due for another member, although Erg is doing real well with his seven watts from a vibrator supply at the moment. 5JA is now well settled in England, so there is nothing that I can say about him except that some people are lucky. 5FD is maintaining a silence that cannot be penetrated, not sulking are you John, or are you working DX when all are asleep? There is no DX at that time OM.

5MS is still working a few on 20 and keeping weekly skeds on 2 metres. You were putting in a good signal down here Stewart for quite a while, but I have not heard you for some time now. 5CH is a very busy man at the local power house, but Claude still manages to work a few on 40 and also keep weekly skeds on 2 metres. 5RF is down at the Mount relieving so that the hard workers at the local broadcasting station can take their well earned holidays. Bob has been showing them how good 40 is at the moment, although his gear belies the portable sign he uses, but then perhaps he has a spare camel to carry the odd bits and pieces. 5KB is now stationed at the Drome for a year or so and is reported to have a 522 with him, so it looks as if he will be lured into the 14 Mc. network. Being about seven miles away, he will be a better check for the boys. You should be in demand Peter. 5CJ has been working a few on 40 as well as his weekly sked on 144 Mc. and he tells me that a rumour is circulating to the effect that 5FM is expected down at the Mount for a week-end, and Col says that all the boys have been warned, but he failed to tell me as to why.

I have just finished reading several pages of Ham notes in a well known magazine, written by a fellow scribe who signs himself "Woomera." I wish that I had his ability, because he writes his notes in the manner that I would give pounds to be able to emulate. However he tricked me by saying that 5TL was heard with a good signal from Ceduna recently. Now if I said a thing like that, nearly all of VK5 would be on the phone next day politely telling me their opinion of me as a journalist, because I had always believed that Tom left Ceduna over twelve months ago. Of course I could be wrong. Incidentally "Woomera," I put out a fairly good signal on 20 myself, why I have had a card from as far away as Newcastle. What about giving me a paragraph, I love to see my name in print.

There is very little to report from the River Murray district this month, the most important event was the fact that VK5BJ (I give him the full call sign for once) has hit the air. My spies tell me that he slapped a rig together and has already passed the half century in contacts. I also heard that he is going to have a go at the second class commercial, or even higher if necessary. Good work Jim. 5KW has been heard on 40 a lot, and has been receiving very good reports too. Most of his time, however, is spent on the v.h.f's. 5MA is still winding transformers, at least his offsiders are, but he should be set for high power before long. V.h.f. has claimed most of his time this month, mainly 50 Mc. 5BC has been on "six" this month, and uses 40 quite a lot for cross band working with his brother 5HD. Hughie has finished his v.f.o. and it will soon be in use in his transmitter. Mrs. Lloyd has been on the sick list for a while and he has been cook, baby minder, and everything else, with radio in his spare time. It goes without saying that there has been very little radio.

5SL has completed his v.f.o. to his satisfaction and is now starting on the main transmitter. Progress is very slow, as his time is very limited, but good progress has been made toward that block of land with the two 60 ft. pine trees in the front garden, in fact I have been told that the block is situated in the highest level of the district. Quite by the luckiest of accidents, so he told Patricia!! How could you Laurie.

I have been an active Ham for quite a long time now, and I have probably mixed with more active Hams than the average has in that time, and I feel that most Hams do not realise how lucky they are to be able to come on the air and say and do just as they think fit. I must admit that most of us have been in the habit of tying ourselves to the kite strings of a few prominent Amateurs who have accomplished something worthwhile in the world of radio, and most of us are only too pleased to point to ourselves and say "Everybody realises our worth and would do all in their power to keep us on the air, and the Government knows that we form a reservoir in peace time from which it can draw its ready-made supply of trained men."

It sounds good, it looks good, but if we are honest with ourselves we will ask ourselves just what do we do to justify our existence on the bands allotted to us. If we go on being honest we will be the first to admit that we owe our very existence to the softheartedness of the controlling Government, and providing that we keep a tight rein on our tongue and our actions, they will let us play around for as long as we like.

Bearing all this in mind, I was amazed the other afternoon on 20 metres to hear a certain VK2 shouting his head off to a W4 and giving his opinion on the outbreak of hostilities in Korea, and also his opinion of several notable personages connected with the outbreak. Personally I agreed with all that he said, but I don't think that his passing a simple examination and being issued with a licence to transmit on the air entitled him to open his big mouth for the world to hear on a subject of International importance. The fact that he seemed to think that he had been appointed to speak for the rest of the Hams in Australia only goes to prove to what delusions of grandeur he has reached. His further remarks to the W4 to the effect that we would all be off the air before long were decidedly in bad taste and quite in keeping with the whole regrettable incident, and for the sake of his fellow Hams, if not for himself, it would be more politic if he confined himself to his hobby of Amateur Radio instead of allowing his oversize tongue to get out of control.

Too many incidents such as this will only make those up above begin to wonder if we are such a harmless lot of chaps solely interested in a genuine hobby. We may all be off the air quick enough, without some "dillpot" putting the idea into their heads. Some of you may think that I have overdone the harshness in this paragraph, but always remember that we all have a wonderful hobby placed in our safekeeping, and it behoves us all to protect it to our utmost.

Several members have contacted me to say that the entertainment that I said was available on "ten" certainly lived up to my promise, in fact quite a lot seemed to think that I had soft pedalled it a bit. Anyway it is back again this month with a complete change of programme, so cut yourself a piece of cake on "ten" and enjoy yourself. Oh Mavis!

I have received via the grapevine, information to the effect that both the President and the Past President intend to be absent from the next general meeting, presumably on holidays. Personally I think that it tiddlewinks, especially when you consider that this means that I will have to take the Chair at the said meeting. Oh well, as long as I don't take the table as well, I expect it will be alright.

To close this month's notes I have been asked to announce that all of the Government Tourist Bureau QSL cards have been distributed and if you did not receive an issue of a second hundred, then you are out of luck. This second hundred was distributed on the basis of first come first served, until the cards ran out. It was announced over 5WI each Sunday morning for a month as well as in the "Advertiser" column. Therefore don't blame anybody but yourself if you missed out. If it helps at all, we are very hopeful of a further issue, perhaps in the new financial year, but I could be wrong.

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WESTERN AUSTRALIA

The highlight of the news for this month is undoubtedly the Annual Dinner, which was held at the usual rendezvous on Friday, 9th. The attendance eclipsed all post-war records, no less than 71 being present. There were representatives of the P.M.G's. Department, the Trade, and the Press. It was also very nice to see that four of our country members, namely 6MO. 6DX, 6FD and 6RT were able to make the trip down to the big smoke. Unfortunately none of the Geraldton gang were able to be present, but due to some very nice work on the part of 6WZ and 6KW, a wire recording, giving greetings and good wishes from each and every member of the Geraldton net, was sent down in time to be played at the Dinner. Nice work Harry and Ron. Wonder who wrote the script for the boys!

After a very excellent repast, washed down by the best brew in Australia, 6KW was presented with the G. A. Scott Trophy (a magnificent globe) by old timer, Frank Goldsmith. Competition for this trophy was, I believe, very keen although the number of entrants was rather disappointing. Congratulations Ron on a fine effort.

The evening was then given over to entertainment and competitions. Noticed 6FW carrying home a good armful of prizes. This lad is certainly consistent when it comes to quiz shows. Everyone who attended the dinner had, I am sure, a most enjoyable evening, and the Dinner Committee are to be congratulated on the way in which everything was organised. Nice work fellows.

The June meeting was held in the Institute Rooms on Tuesday, 20th. The attendance was not up to the usual standard, there being 31 members and two visitors present. 6WG and Mrs. Green, from Albany, were present and as the President remarked, it was a long long time since we had seen an XYL at our meeting.

The subject of frequency checks and accurate frequency transmissions came up for discussion and 6DD intimated that he was still available for spot frequency checks. It was decided that the Contest Committee, in collaboration with 6DD, endeavour to arrange a periodical transmission of accurate frequencies covering the Ham bands to enable members to calibrate test equipment, v.f.o's., etc. This should be of great benefit to members and our thanks go to John for volunteering his time and equipment.

Our worthy Secretary, 6AG, delivered another of his inimitable "flashbacks" to the early days of radio in W.A., much to the enjoyment and amusement of those present.

The last item of an interesting meeting was a talk and demonstration on the grid dip meter by 6HL. Harry just about sold the meeting on this handy little piece of test equipment, and I can forsee quite a few more being constructed in VK6. The meeting closed at 10.35 p.m.

Sunday, 25th at 1030 hours, saw the stage set for the 40 Meter Scramble of 1950, and battle begin for the President's Trophy; and boy, what a battle it was! Between 40 and 50 stations were active at various times during the Contest and several of those came on the band during the last half hour or so, just to liven up proceedings. Several stations worked over the forty mark and it would seem that the Contest Committee is going to have a hard task when it comes to finding the ultimate winner.

PERSONALITIES

6RU is certainly having a rough trot with his beam. In a recent gale his tower carrying the ten and twenty beams came down completely, straddling the dividing fence and flattening both it and the next door neighbours' clothes line. If we know Jim however, it won't be long before that tower is up and the beams turning again. 6LU, a comparative newcomer to the game, is putting the finishing touches to a home constructed heterodyne wavemeter and tells me he no longer refers to it as the "freak meter."

6GM is using a 522 on 2 metres and has a fixed beam for that band with provision for rotation later on. A complaint from 6JK, to the effect that none of the locals use c.w. on 40. Try 20 Frank if you want some morse practice. 6RK came to light with a batch of overdue QSL cards the other day. Believe some of them dated back to '47. Another to sport a very attractive QSL is 6LL! Bet you had a swag of them to fill in Clarrie.

The 40 metre scramble brought to light some of the rarer call signs. At least they were rare to me. In this category I would place 6RJ, 6WL, 6JS and 6SK. The latter apparently has his small portable rig working nicely, was putting a good signal at this QTH during the Contest. 6WT still compulsorily inactive due to an uncompromising landlady. However Dave managed to get on 40 with a few milliwatts for the benefit of the scramble boys. Must have been an indoor antenna Dave, couldn't hear you over here.

6WZ and 6EL still keeping Geraldton on the Ham map. 6WZ tells me there is a lot of underground activity up that way and very shortly Geraldton should blossom forth as a very active centre of Amateur Radio. 6CN getting all set for the long awaited a.c. I must apologise for the scarcity of news this month fellows, but it has been too bleak to spend much time in the shack tuning the bands for items to include in this column. Will try and do better next month.

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TASMANIA

An extremely interesting lecture on the construction, operation and uses of Radiosonde Equipment was given by Mr. McDermott, of the Weather Bureau, marked the July meeting, held at the Photographic Society's Room. Everybody present was impressed in the manner in which the equipment played a major role in the compilation of weather reports. To complete the evening, a sale of crystals was conducted by 7LE, followed by a movie show depicting various field day incidents (or accidents) was given by J. Grace.

Congratulations 7RX on obtaining your ticket and it is believed that Keith is building a super-dooper Tx (without a key jack?). Noticed a couple of Gs and Ws amongst the pile of QSL cards collected by 7LD from the Bureau the other night. Having only recently received his ticket, Len has been heard on 40 with some very nice phone. Another ardent c.w. man who I can remember distinctly remarking he would never succumb to phone has been heard using screen modulation and carbon mike on 7 Mc. It surprises me, Ken, how you got that microphone working so well.

Trust conditions on the bands are better for the next Remembrance Day Contest than they are at present and hope an active support will be given in an effort to retain the Trophy. The W.I.A. broadcast now being held weekly is a definite advantage over the original fortnightly transmission as it saves confusion and it is an easy matter to tune to 7196 Kc. for the latest news and doings for the week. We extend our thanks to 7OM for this extra service.

Believe 7SD lavishly acquired two meters for the rig, forgot one or two shunts, and succeeded in wrapping the pointers around the case a few times. Bad luck Don, but why should I complain? 7JB heard on 20 and 40 running a 100 watts into a 810 with f.b. signals. Jack is a very keen DX merchant as shown by his pile of QSL cards. Beats me Jack how you can work all this DX with present conditions.

Heard from ex-7TA the other day, hopes to be remembered to all the boys; you are a bit of an ear-basher Geoff, but we were really sorry to see you go. Hope to see you at the next general meeting, this includes you, 3ARL.

Future try-outs for the emergency network promilgated; this has created interest amongst the Southern lads. A lecture on traffic handling was given by 7JB during the month so we should, in future, have a comprehensive network available if the occasion is warranted.

Sorry there was so much QRM 7AB, your signal was the strongest heard down this way for quite a while. Keen interest is being shown by 7AF, 7OM and 7DA in the modulator made popular by "A.R." a few months ago. From what can be gathered, this type of modulation has proved successful. Was surprised to hear 7YL active again on 40 after a lapse of a few years. Seems the OM slept in or did you give him the housework to do Joy? By the way you blokes, don't forget our next meeting should prove interesting as the lecture arranged deals with oscillographs, so do the right thing.

NORTHERN ZONE

The month under review has produced two meetings, instead of the usual one. The first, held on the usual meeting night at the King's Hall brought to light several contentious matters that received a thorough airing during the course of the evening and even though the necessity for such discussion may be regrettable, it shows a true spirit to air any grievances publicly rather than harbour the thoughts under the surface with possibly disastrous results later. The second meeting, a fortnight later, saw much enlightenment to everybody and it was generally agreed that, far from having any derogatory effect, the whole matter had served to bring all close together.

It was indeed a treat to be once more in a more comfortable room. In this respect, we are very grateful to possibly our most active associate member, Perc Crawford. Do wish you would get a call Perc, so I don't have to write your name in full.

In each of the last two months' notes I have deplored the absence of DX, so need I say more other than the fact that its obituary can be heard almost any night on 14 Mc., the begattes, in the shape of commercials, celebrating in fitting style and the only remaining mourners those few old die-hards that just don't know when they are beaten—let's hope the resurrection is as complete as the burial.

One of the unusual features of the month was the complete black-out on one Sunday morning of the W.I.A. broadcast from Hobart. Most unusual as these broadcasts are normally very well received in the North. 7XW belied my last month para before it hit the press by very actively attending both meetings this month, but we really must have a wire recorder installed as some of Chris' original phrases are gems and none of us, including Chris himself, can seem to remember them when our Secretary comes to write things down.

7TE has been a notable absentee for some time, but believe our meeting nights coincide with the nights that he slaps out the low frequencies in sweet and swing. Be pleased to see you whe you can make it Bill. 7DS hopes to line up son films for us for July and to this end is pursuing aforementioned films with admirable zeal, but more of this next month. 7NL seems to have given up the key and ear bashing for a lower portion of the anatomy by walloping shins with a hockey stick—next thing we'll see is Noel limping around and mumbling something about the other bloke being too big. 7HY occasionally graces 7 Mc. on phone and am still trying to get Henry to wir a keying jack in and really enjoy the sport.

Some obliging juvenile neighbour at 7LZ, evidently read my piece re someone pushing someone else's beam over, and did his best on Col's 28 Mc. three element. After spending several hours fixing same, Col went inside and blew up his main power tranny, knocked over some bottles of photographic equipment and nearly gave himself concussion on a shelf, which only goes to show what a good day of rest Sunday must be to all those not interested in radio. That about winds us up for this month, any discrepancies will have to be excused by the hour, 0100, and the deadline set for the morning mail. Don't forget the August meeting on the 11th, same time, we'll let you know the place.

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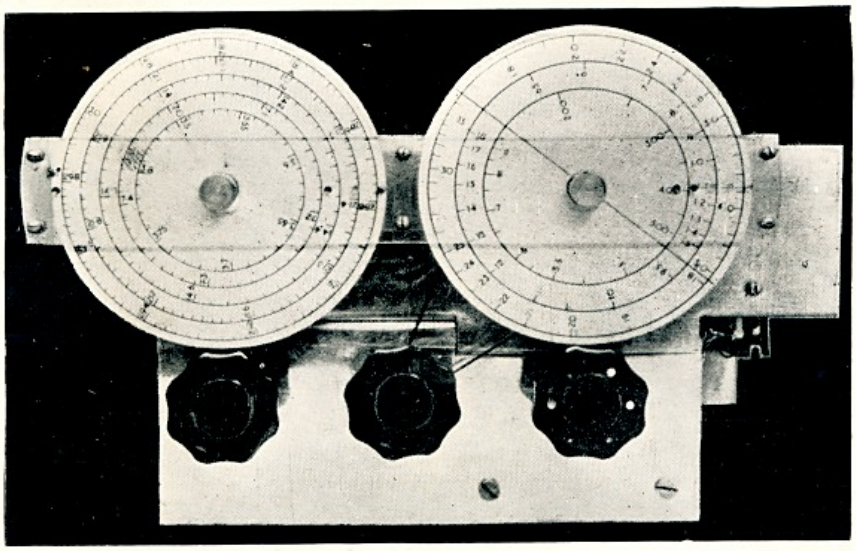

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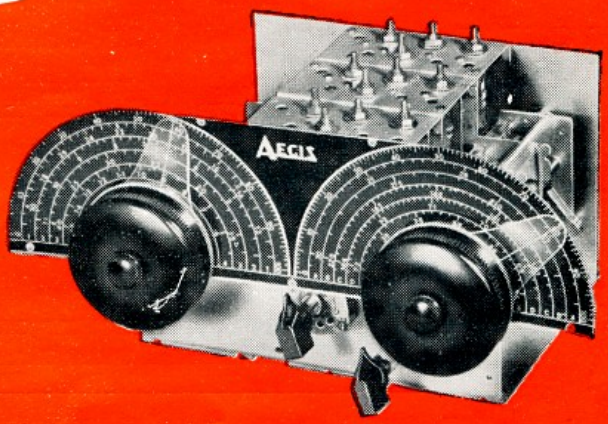

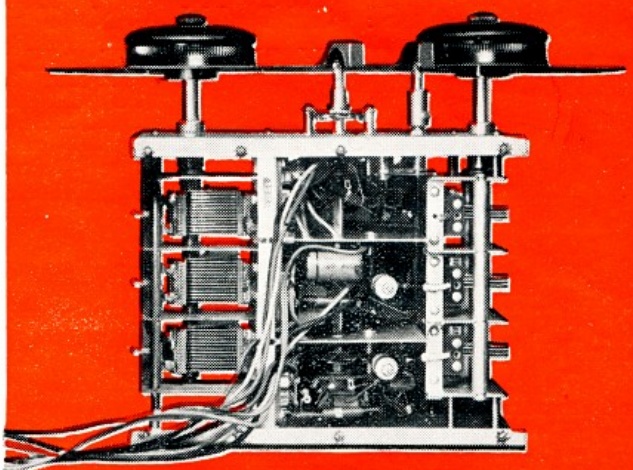

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